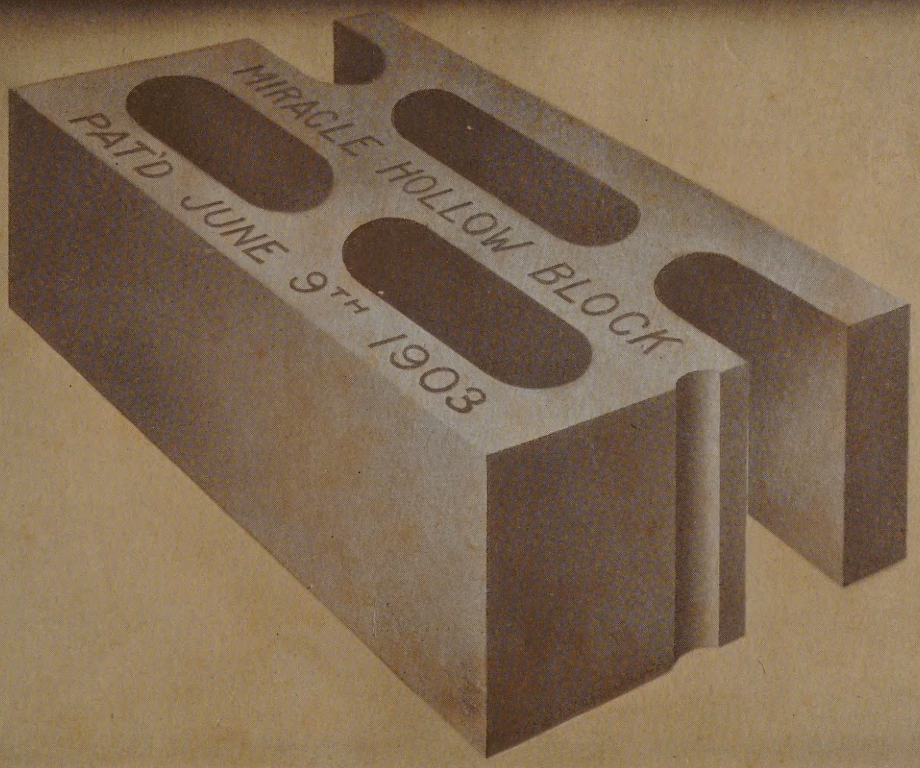
EDITION FOR
08-09

Miracle CONCRETE

THE GREAT MODERN INDUSTRY



Miracle Pressed Stone Co.,

MINNEAPOLIS, U.S.A.

PRICE 25 CENTS

AVERY LIBRARY
COLUMBIA UNIVERSITY

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COLUMBIA UNIVERSITY

OUR 1908 POLICY

¶ IT has always been our policy to satisfy the demands of the public in the concrete line and supply the needs of the market. We have spent many hundreds of dollars investigating the conditions through this an other countries, and many thousands of dollars to gather in the best of all classes of equipment for the production of concrete in its various forms. So, that at the present time, our **complete** line **is complete** in the truest sense of the word.

In addition to our world famous Double Air Space block equipment, we are now in a position to offer block machines of all descriptions, including various designs and styles of face-down and side-faced machines—machines for a very wet process, as well as for medium wet process blocks, also machines for continuous air space blocks. These have all been very carefully selected from the best on the market, and we feel that without a doubt we have actually secured the very best.

BRICK MACHINES

In brick machines, we furnish equipment ranging from $15. to $100. Any of these machines are equipped for making cheap, common brick, or the highest grade of faced and ornamental brick.

We have found that the manufacture of concrete brick, when made in the highest quality possible, presents a very profitable field of operation. Aside from that, on account of the well-known form of a brick—regardless of its composition, cement brick have proven an entering wedge for concrete in many places where the purchaser was skeptical about using it until he had discovered the value of concrete in this familiar shape.

These machines are equipped for producing all designs of fancy moulded brick, which sell in direct competition with the highest grade of hydraulic pressed clay brick.

MIRACLE PIPE AND TILE MOLDS

Our equipment of molds for producing cement pipe for all purposes is complete in every respect.

Sewer pipe are produced either in the form of the bell-end pipe or bevel and tongue pipe. Double strength pipe for culvert purposes are produced in the same molds, either by reinforcing or by means of a thicker shell. Reinforced pipe are made with the "poured" process in our molds to convey water under heavy pressure, such as is required for carrying water through inverted syphons for irrigating purposes, or carrying water through flumes for water power, or in fact, for any purpose where resistance to enormous inside pressure is required. We furnish designs for reinforcement for any head.

These pipe range in size from 4 to 48-in. in diameter. One concern using our pipe molds now has under contract over 500 miles of sewerage, all of which are made of cement pipe. All of our pipe mold customers—some twenty-five hundred in number January 1st., 1908—are realizing handsome profits on this branch of the business.

ORNAMENTAL MOLDS

In August, 1907, we purchased the entire stock, patterns and patents of the Cement Working Machinery Co., of Detroit. This purchase was made after a very careful survey of the field of ornamental molds, an this equipment was found to be the most perfect in architectural design and proportion, and the ready sale of the products of these molds in the hands of our customers, have proven this also to be a very inviting branch of the concrete industry, and one, subject to enormous growth and expansion.

When you stop to consider that you can produce for less than one dollar, actual cost, a concrete lawn vase which sells at anywhere from five to ten dollars, you can readily see the handsome profits to be realized in this field.

CONCRETE TOMBSTONES

In December, 1907, we purchased the patents, patterns and stock of the Orlean Tile Manufacturing Co., of New Orleans.

This is, as yet a practically undeveloped field, and those who get into it first are bound to make the most money.

The tombstones produced in these molds are perfect in design, and show well the exquisite taste of the sculptor who designed them, Mr. Hans Hirsch. Mr. Hirsch learned his trade in Germany, and had charge of the concrete exhibits at the World's Fair in Chicago. 1893, and has spent almost his whole life in this line of work, so that we are very proud to be able to offer this equipment to our customers.

CONCRETE MIXERS

It is a well known fact that any kind of mechanically mixed concrete is far superior to any hand mixed product. While our first efforts in this direction were in the small cube mixer for hand power, which has been most eminently successful, we have recently added other mixers, bath batch and continuous, large and small, ranging in price from $35. up to $1000. Our sales of the Miracle Cube Mixer, (being over 500 in 1907), opened our eyes to the enormous possibilities in this field.

SIDEWALK MACHINERY, TOOLS AND EQUIPMENT

Our ten years of experience in the sidewalk business have taught us that many tools and machines for use by the sidewalk contractor, gotton up by visionary mechanics, are very impractical. We have selected only the best in this line and offer the same toourcustomers at bed rock prices.

The Miracle Sidewalk Tile Machine is equipped for producing a tile 2 inches in thickness and any size from 8 inches square up to 24 inches square—the same sizes in the hexagon style.

LABOR SAVING DEVICES

Our equipment of labor saving devices such as pneumatic tamping equipment, air compressors, gasoline engines, etc., are also the result of many years of experience and experimenting and we are proud to say that every outfit of this kind that we have placed is in successful operation.

In fact, as stated above, we wish to reiterate that our constant aim will be to supply to legitimate and profit-producing requirements in the concrete working trade in general, and to assist our customers in every way possible to increase the quality and quantity of concrete products, and at the same time keep factory costs down to a minimum, thus helping them to realize a maximum of profit.

MIRACLE PRESSED STONE CO.

MINNEAPOLIS, U. S. A.

The Department Store of the Concrete Industry

MANUFACTURERS OF MACHINERY FOR MAKING

Miracle Ornamental Concrete Products,
Miracle White Concrete Tombstones, Monuments and Burial Vaults,
Miracle Double Staggered Air Space Cement Building Blocks,
Miracle Cement Sewer Pipe and Tile,
Miracle Cement Sidewalk Tile,
Miracle Cement Brick.

Concrete Tools and Appliances of all Kinds
Including Miracle Hand and Power Concrete Mixers.

FACTORY AND OFFICE:

NICOLLET ISLAND, MINNEAPOLIS, U. S. A.

CABLE ADDRESS, "MIRACLE, MINNEAPOLIS."

Copyright, May, 1908, MIRACLE PRESSED STONE CO., Minneapolis.

The Pantheon at Rome

The Pantheon at Rome was built by Agrippa, 27 B. C.,

2,000 YEARS AGO.

Its state of preservation is most convincing evidence of the strength, durability and permanence of cement concrete construction.

The circular walls are about 20 feet in thickness, and the roof is a hemispherical concrete dome, with a 30-foot opening in the top, and spanning in the clear 142 feet and 3 inches.

After Nineteen Centuries

it stands as the most perfect of the old classical buildings in Rome, and shows not a single crack to-day.

WHO AND WHAT WE ARE IN THE GREAT Modern Industry—CONCRETE

BUSINESS RELATIONS between ourselves and Miracle Concrete machinery users have always been peculiarly close and direct. That this is so the pages of this book will testify—fostering a spirit of co-operation that makes us one big family.

We prosper only as our patrons make good products and good profits. The great body of Miracle machinery users are often greatly helped by suggestions and facts, learned through experience, that we make it a point to disseminate widely by means of a magazine which we publish occasionally for this purpose.

We feel in the outset, therefore that a personal word, by way of introduction, may help to establish that mutual understanding and confidence so essential to the success of any commercial relationship.

O. U. Miracle
President

A WORLD-WIDE MIRACLE FAMILY.

We have started over 3,000 men into the business of manufacturing concrete products; and have sold our machinery to thousands more who had previous experience. These men are now at work in various lines of concrete manufacture in all parts of the civilized world; not a country of consequence in Europe, Asia or Africa is without its Miracle concrete workers. In Australia and New Zealand, in Mexico and South America, in Corea and Siberia these machines are giving such good satisfaction that they are constantly laying the foundation for more orders. In every state in the Union and in nearly every county, where the use of concrete has become a practical matter, Miracle outfits are making money for their owners. The United States Government and the British Admiralty are included in the Miracle family. Clever Japanese and sturdy Russians; swarthy Arabs and patient Holland Dutch are making Miracle concrete products; and one of the largest enterprises in the world using Miracle Molds is at the City of Mexico.

A BUSINESS OF MANY SUCCESSES.

A larger proportion of men have succeeded in the concrete business than in any other industy that we know of. We can claim only partial credit for this fact, however, because we feel that the manufacture of concrete products attracts the bright, active and pushing men of communities offering a field for this enterprise. Usually these begin in a small way (as we generally prefer they should), learning the foundation principles of the business while it is devoloping under their own hands. Then, as opportunities for larger things come, these men are able to meet them and turn them to profit to themselves and advantage to the public.

It may interest some to learn that we laid the foundation of the Miracle concrete machinery business in actual every day experience as workers in concrete. Every machine and tool that we offer for sale has been tried out; and our experiment department is constantly making investigations to benefit the Miracle family of concrete workers. We know every machine we sell will do all that is claimed for it—and more—in the hands of the man who will but follow the simple instructions.

But we do not depend entirely upon our own efforts to keep us in the lead in this industry. We are always in the market for the best that can be produced. We are now the largest manufacturers of concrete machinery in the world. We are ambitious to remain at the head and hope to deserve the patronage of the concrete users of America and the world.

WE INVITE YOU TO SHARE THE OPPORTUNITIES.

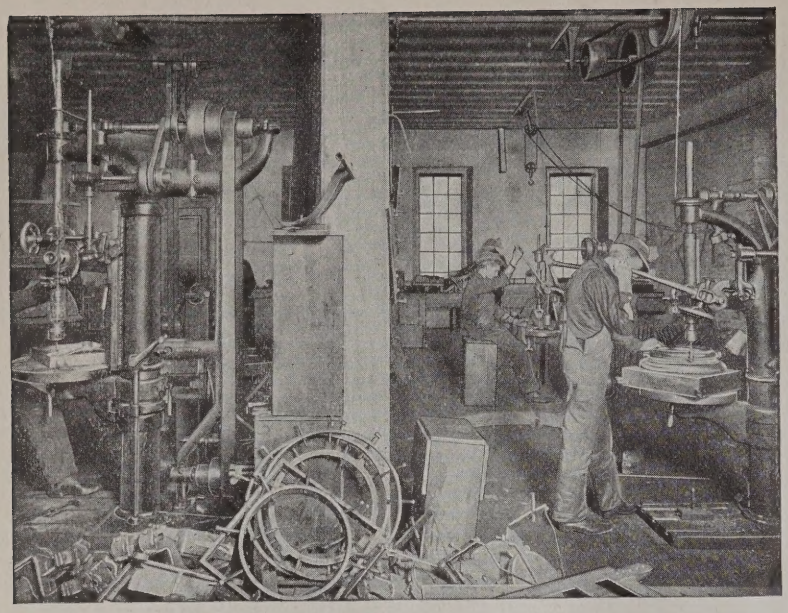
We commend the concrete business unreservedly. We know that the men who go into it have almost unlimited fields open to them at once—and a broadening future. We do not say to you "go" into it, but "come". We have been active contractors in concrete work from the beginning of our connection with the industry and are still engaged in some of the largest concrete contracts in the continent of the classes which we have specialized; and it is but a frank statement of the truth when we say that we find the making of concrete products the most profitable department of our various enterprises.

While it is quite uncommon to invite competition in business, we feel that this field is so big that we will continue to get all the work that we can give proper attention to. So, too, can the reader. Here is a business that you can "learn to do by doing;" you can succeed from the start in a small way without experience. And you can succeed in a large way limited only by your knowledge of business and your other capabilities.

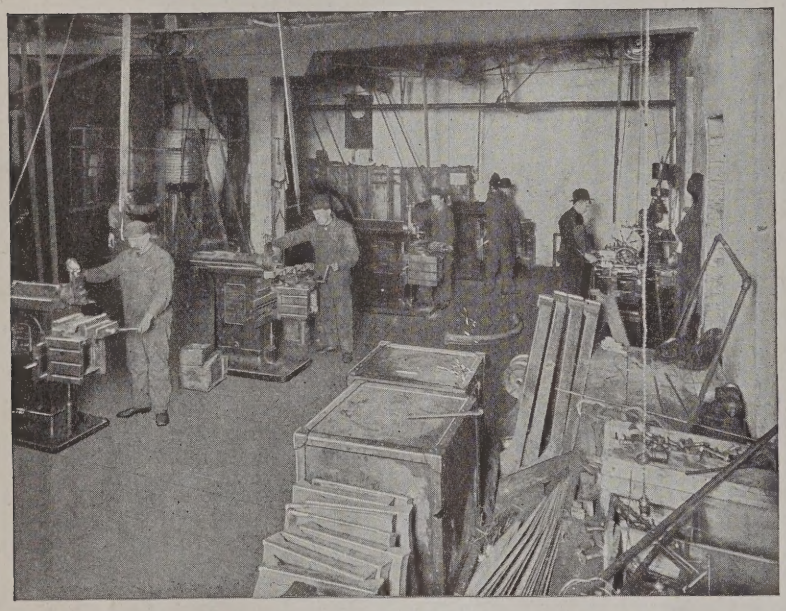
This means some satisfaction and probably some money to us; but, when it is remembered that at this time no less than 6,000 concrete workers are looking to us for the newest and best, we have a responsibility, also. We must keep faith with them.

We can have no higher ambition than to have the honor of serving these thousands of the brightest, most progressive business men in the world—the concrete working brotherhood—the Miracle workers.

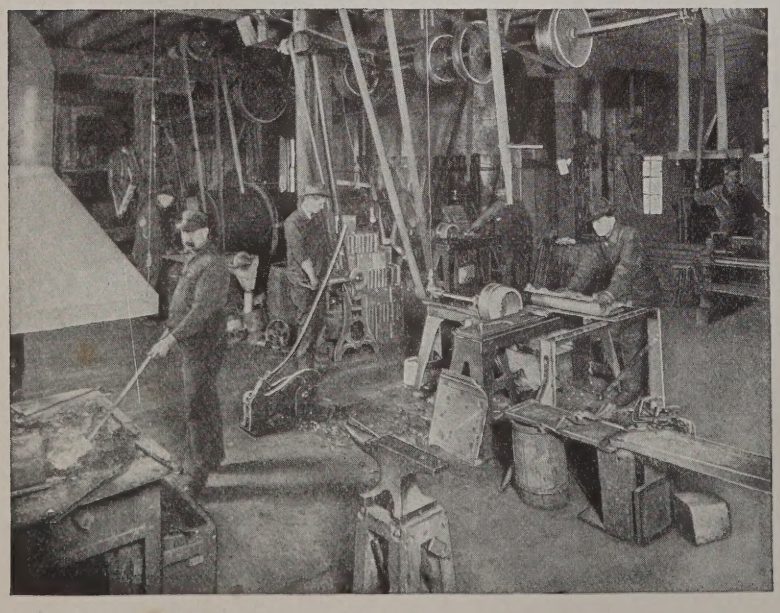
R. O. Miracle
Secretary and Treasurer



Emery Grinders.



Drill Presses.



Shapers.

—MAKING—

Miracle Concrete Machinery

Something About the Importance of Workmanship and Finish in the Making of Concrete Products.

The purpose of the illustrations on this page is to make clear to the mind of the reader the prime importance of workmanship and finish to the user of machinery and molds for the manufacture of Concrete blocks, brick, sewer pipe, ornamental columns, etc.

As practical concrete workers, we know the requirements of the art. We realize that the superior finish in the mold means many times the first cost of this finish in the saving of labor upon the product.

After obtaining perfection in the design of a machine, we spare no pains or expense to build it of the most serviceable materials and to make every piece fit true. When every part fits, then only does the mould turn out a perfect product—and only the perfect product, be it a block, brick. ornamental piece or sewer pipe, is economical to the builder and satisfactory in the structure.

The careless, shiftless, indifferent man should not attempt to manufacture concrete products. While this is a business that is simple and easy to learn in a short time, perfect products require two things: good ordinary attention to the work, and molds that are properly designed and well finished.

The beginner who starts handicapped with machines that are imperfect in design and crude in finish can hardly be blamed for turning out the imperfect concrete products which are sometimes cited against the industry in general. This is not a fair test, but it serves as a warning and a suggestion to the prospective purchaser.

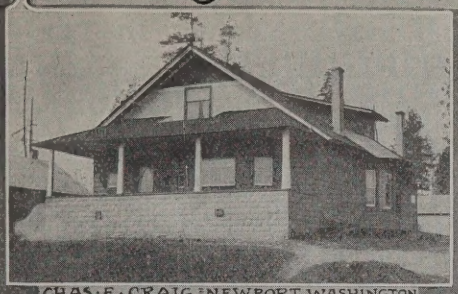
When you buy a Miracle machine you make no experiment; you buy an assured success. The large variety of different machines for various purposes that we manufacture make it necessary that we maintain a thoroughly modern factory plant.

Shapers, planers, lathes, drill presses, emery grinders and special machinery designed to manufacture special parts are used in our factory, which makes it easy for us to turn out absolutely perfect parts that will not give the buyer the slightest trouble in setting up for any style of product which the machinery is designed to make.

We use a superior quality of gray iron castings and we finish with the greatest care all parts of the molds which are to shape the product. The workmen are specialists on their several parts. All castings are carefully inspected at various stages in the course of manufacture and the Miracle machinery, before it finally goes out of the fitting-up room, is once more thoroughly looked over under the direction of the superintendent of our factory.

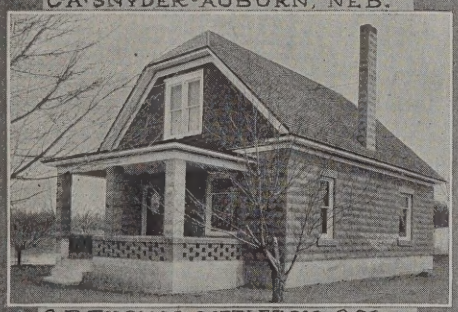
The packing room is in charge of experienced men, who are given ample time to place the machinery in perfect condition for shipment. For these reasons we feel perfectly safe to ship every machine out under our absolute guarantee.

Cottages and Bungalows



CHAS·F·CRAIG NEWPORT, WASHINGTON

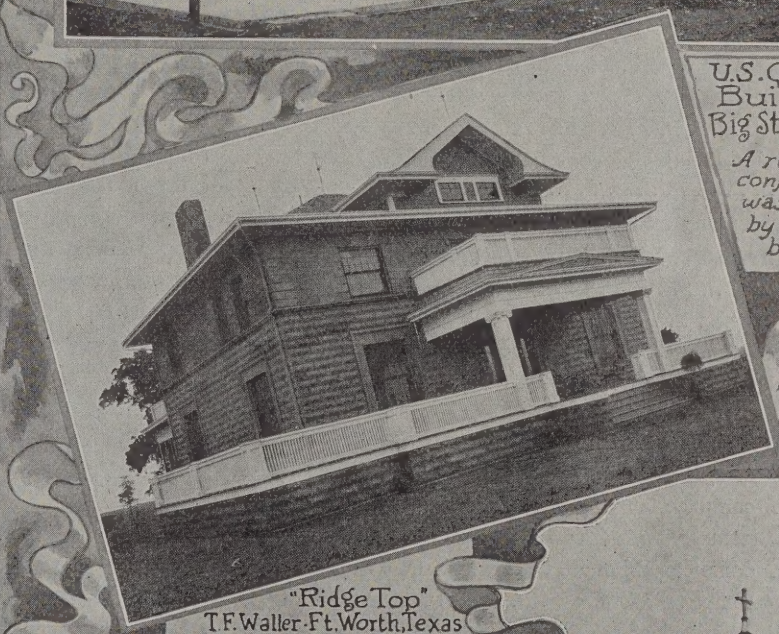
C·A·SNYDER-AUBURN, NEB.



C.P. THOMAS, LITTLETON-COL.

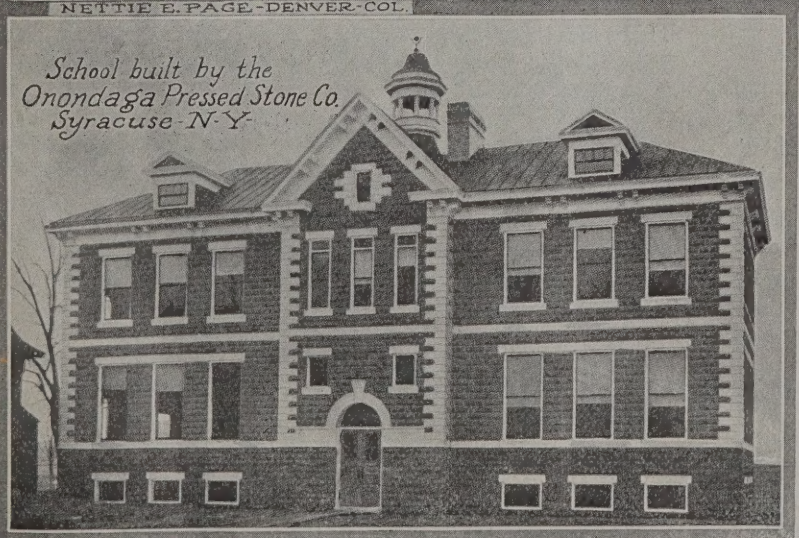
NETTIE E. PAGE-DENVER-COL.

U.S. Court Building at Big Stone Gap, Va.
A recent conflagration was stopped by this building



"Ridge Top"
T.F. Waller-Ft. Worth, Texas

MIRACLE CONCRETE BUILDINGS



School built by the Onondaga Pressed Stone Co. Syracuse N.Y.

LUTHERAN CHURCH
WATERVILLE-WIS.
CONCRETE BLOCKS
COST $1800—

MIRACLE IN FOREIGN LANDS

Miracle Products are triumphant in their own country. It is therefore natural that their make, especially the fame of the MIRACLE DOUBLE STAGGERED AIR SPACE BLOCK and MIRACLE MACHINERY for making it, should spread to other lands. The MIRACLE is known the world around, and the "sun never sets" on the good work it is doing.

It is characteristic of foreign buyers to thoroughly investigate before purchasing—not afterward. The Miracle Double Staggered Air Space Block convinces even the shrewdest foreign buyers, and is demonstrating its popularity with foreign builders, as is evidenced by continued and duplicate orders for Miracle machinery.

Foreign correspondence is solicited in any foreign tongue.

TELEGRAPH AND CABLE CODE:

CABLE ADDRESS: "MIRACLE, MINNEAPOLIS."

Interpretation.	Code.
Ship at once	Ship
Contracts properly signed and complied with follow today	Contracts
Ship against Bill Lading and Draft	Lading
Money sent forward today	Payment
Money Deposited	Deposited
Hold for instructions	Hold
Send salesman at once	Salesman
Hand documents to Bank of New York with sight draft	Documents
Ship Exhibit A complete at once	Exhibit
Ship Exhibit B complete at once	Exhibiting
Ship Exhibit C complete at once	Saved
Ship Exhibit D complete at once	Safe
Ship Exhibit E complete at once	Salvage
Ship Exhibit F complete at once	Shipping
Ship Exhibit G complete at once	Shipped
Ship Exhibit A&B complete at once	Shipper
Ship Exhibit AB&F complete at once	Shipment
Ship Exhibit ABF&G complete at once	Shipweight
Ship Broken Ashlar Plate H-140	Ash
Ship Broken Ashlar Outfit complete	Ashlar
Ship Chicago Chimney Outfit complete	Chicago
Ship Veneer and Partition Plates complete	Veneer
Ship Egg Dart and Cornice Outfit complete	Cornice
Ship Half Height Outfit complete	Half
Ship Wreath Belt Course Outfit complete	Wreath
Ship Gopher Machine	Gopher
Ship Climax Machine	Climax
Ship Northwest Machine	Northwest
Ship Minnesota Machine	Minnesota
Ship Wonder Face Down Machine	Wonder
Ship Winner Twin Block Machine	Twins
Ship International Block Machine	International
Ship Miracle Block Lifter	Lifter
Ship Bell End Sewer Pipe Outfit complete (state size)	Sewer
Ship Straight Drain Tile Outfit complete (state size)	Straight
Ship Straight Tile Outfit with bevel end rings (state size)	Drain
Ship Bevel End Rings for Tile Outfit (state size)	Bevel
Ship Bell End Attachment for Tile Outfit	Bell
Ship Miracle One Man Brick Machine	Brick
Ship Miracle Special Brick Machine	Special
Ship Miracle Sidewalk Machine	Walk
Ship Square Mold for Sidewalk Machine	Mold
Ship Hexagon Mold for Sidewalk Machine	Hexagon
Ship Miracle Hand Power Mixer	Mixer
Ship Miracle Winner Mixer	Winner
Ship Miracle Concrete Block Car	Car
Ship Air Tamper	Tamper
Ship Air Tank	Tank
Ship Air Compressor	Compressor
Ship Air Tamper, Tank and Compressor complete	Air

Sizes for Sidewalk Molds and Sewer Pipe Molds may be specified as follows:

Six inch	Six
Eight inch	Eight
Ten inch	Ten
Twelve inch	Twelve
Fourteen inch	Fourteen
Eighteen inch	Eighteen
Twenty inch	Twenty
Twenty-four inch	Forty
Thirty inch	Thirty
Thirty-six inch	Sixty

SAMPLE ORDER BY CABLE.

Genoa, Italy

Miracle, Minneapolis.

"Shipweight, Ash, Brick, Mixer, Air, Documents."

JONES.

This covers an order to ship at once Exhibits A, B, F and G, Broken Ashler Plate H-140, Miracle One Man Brick Machine, Miracle Hand Power Mixer and Air Tamper Tank and Compressor complete, with instructions to hand documents to the Bank of New York with sight draft.

Miracle Pressed Stone Co.

Minneapolis, U. S. A.

THE GREAT MODERN INDUSTRY

READ THIS PAGE CAREFULLY.

AN OPPORTUNITY FOR PROFITABLE INVESTMENT.

There has never been a year when capital was seeking so strenuously a profitable outlet, nor has there been a year when opportunities for profitable investments have been so plentiful as is the present one. The reason is directly due to the condition of the times. There is abundant chance for success in any reasonable project. Surmounting all other fields for investment is that of concrete construction. There is none so inviting to the conservative investor from all points of view as in any one, or all, of the four big industries we are promoting.

We have been remarkably fortunate with each branch. In every one we have found an exceptional and strong advantage over anything ever attempted along the same lines. In one branch we have incorporated the only successful principle to attain the desired end. In another we have contrived mechanism which has reduced the purchaser's investment by hundreds of dollars, and yet he is able to accomplish the better results. In a third we have reduced the labor by one-third, and so on. Concrete construction in itself has a bright outlook, and the field is barely opened. Yet beyond these two indisputable facts we offer this third and all important inducement, viz., the exceptional and unquestionable advantages of our machines and methods. These advantages we will point out and prove in the following pages. By them we can help you to business success, and together we will help the industry to greater achievements, which will naturally revert to our mutual interests.

LITTLE CAPITAL.

In any, or in fact all, of the branches of Miracle Concrete Construction but very little capital is required. The making of Miracle Double Staggered Air Space Blocks; or of Miracle Sewer Pipe and Tile; or of Miracle Sidewalk Tile; or the making of Miracle Cement Brick, requires only a small outlay of money—the amount of a few months' savings will start one nicely and pave the way for a good business. This much can be done in any branch without devoting your entire time at first. It always pays for beginners to go easy, and "learn the ropes," so to speak, but it is not the beginners alone we are trying to interest.

We want those who are already interested to branch out and enlarge. If you are making cement blocks, spend a little money and make more by entering cement brick manufacture. If you are making brick, go to making sewer pipe or building blocks, also. Every branch of the concrete industry pays well, and calls for but little capital. Enlarge, enlarge. The field is big. It is your opportunity to grow.

There is no other business today that we know of where cost of equipment is so small, and profits so large. The investment in concrete construction business will vary according to the amount of business transacted. The larger your field and the larger you make it, the larger must be your equipment, but there is consolation in that, for the profits more than keep pace with the amount of money and energy you put into the business.

Compare the investment required in cement manufacture with that required in the manufacture of pressed brick, tile, etc., from clay. The expensive machinery is in the first place almost prohibitive. Add to this the kilns for burning and the continual expense for repairs, fuel bills, etc. Yet these manufacturers prosper. In making a cement product you have only a simple mold to buy, and water is all that is needed to cure the product, and no expensive fuel to buy. The little capital required is sufficient alone to warrant a trial, but there are other advantages.

ANY ONE CAN LEARN.

With a competent superintendent any man, with good horse sense, who will do what he is told to do, can readily master this business. From this argument it can be seen that anybody with a little push and business ability can enter this most attractive field.

There is absolutely no chance for loss under able management, and your profits will only be limited by the amount of push, energy and tact that you put into the business.

BIG PROFITS.

This is the interesting item of our proposition. Big profits are only possible when the cost of production is much less than the actual market value. The actual market value of Miracle Concrete Products is controlled to a great extent by the market value of brick, stone and other building materials. However, concrete is far better than brick or stone, and can therefore command larger prices. Concrete construction is better because it is more beautiful and longer-lived than brick or stone; it is Absolutely Indestructible. It is also Absolutely Fireproof and Vermin-proof. Where Miracle Staggered Air Space Blocks are used buildings are also Frost and Moisture-proof. This last feature is sometimes claimed for single air space blocks, but the claim is erroneous, as we will clearly prove in the following pages.

Although Concrete Construction embodies all the good features of the very best quality of brick and stone of the highest cost, and although it adds to this many other merits and advantages, it possesses all the virtues of cheapness, in that the cost of production is considerably less. This we will clearly show in the following pages.

The result is increased volume and bigger profits. We all know that the lumber business is very profitable. But here is what one large lumber dealer experienced. As a side line he conducted a plant for making Miracle Concrete Blocks. His investment in this never exceeded $2,500 at any one time during the year. His average investment in the lumber business was $25,000 (ten times as great). In balancing up his books at the end of the year his Miracle Block Business showed the greater NET profit.

Every branch of Miracle Construction is capable of showing just such experiences. They each have such a decided advantage in one particular or another over their respective competing industry.

A WIDE FIELD.

One machine or one mold is sufficient to start one nicely in any branch of this big industry. Other equipment can be added out of the profits earned from any branch, and the business will soon take on large proportions, increasing from its own surplus.

The market for the product is an extensive one. There is always a ready demand for all the product you can make, and the industry has just had its opening. The breadth of the field for the use of Miracle Concrete Blocks alone comprises a long list. It includes building construction from a plain foundation, a humble cottage or barn, to the finest residence, store or elaborate public building.

The fields for all the other branches are equally as broad. Isn't our proposition worth considering?

THE MIRACLE BLOCK

ITS PRINCIPLES.

DOUBLE STAGGERED AIR SPACES. STRONG WALLS.

The superior merits of the Miracle Block stand out plainly, forcibly, unmistakably. Its double air space principle is directly accountable for most of its many merits. Air space in itself has value. It is an old established fact that a hollow iron tube or column is much stronger than a solid one of equal weight. A hollow wall is likewise stronger than a solid one of equal material. The wall with two air spaces instead of one is accordingly much stronger than the wall with only one, furnishing also three perpendicular walls instead of two. A wall of Miracle Double Air Space Blocks is therefore the strongest possible.

It is stronger by far than two walls forming one continuous air space. Nearly the entire weight of a building falls on the inside wall, and if that wall is only connected to the outer wall by small rods or wooden strips, the outer wall does nothing toward supporting the building. This shows up a strong feature of the Miracle Double Staggered Air Space Block. It forms one good wall for the entire weight of the building; the corners especially where most strength is needed being doubly strong.

A wall from single air space blocks cannot rightly be called a hollow wall, because it has a series of cross sections of solid concrete, directly connecting the inner and outer surfaces every few inches. A complete hollow wall is one in which all solid sections are backed by air spaces—in other words, having absolutely no direct connection between the interior and exterior walls. Such a wall can only be built with Miracle Double Staggered Air Space Blocks. It forms a truly hollow wall. The air spaces register exactly so as to create two series of the perpendicular, continuous air chambers throughout, and each series so backs up a section of concrete that there is absolutely no direct connections between the interior and exterior sides. See illustration below.

FROST AND MOISTURE PROOF.

It is frost and moisture that makes a building cold in winter and hot in summer. Keep them out, and you will have no trouble to keep your building warm in winter and cool in summer. (Frost is only negative heat, and acts the same as far as penetrating the wall is concerned.) Most frost and moisture which enters a building is conducted through the walls. Every building material yet placed upon the market is more or less a good conductor of frost and moisture. Air is the poorest conductor, hence the effort of all contractors and builders to build walls with dead air spaces. But how many of these walls do not have, every few inches, or at the most every eighteen inches, a section of solid wall, forming a direct connection from exterior to interior? Not one, except the Miracle. Single Air Space Blocks help some, but a wall with a single air space would not stand if there was not direct, solid section connecting the inner and outer surfaces, thus creating a direct conductor of frost and moisture. A glance at the Miracle Double Staggered Air Space Blocks will show one very clearly that there is no such direct connection, yet we have shown the Miracle wall is doubly strong. Wherever frost or moisture pierces, it must strike air space, and it cannot go on. Were it to retrace its steps, so to speak, and go around each air space, it becomes thoroughly filtered before travelling the necessary eighteen inches or more. Concrete itself is a poorer conductor of heat and frost than any other building material. Actual usage verifies our arguments on this point. See letters to that effect.

REGARDING OUR PATENT.

No block possesses sufficient merit to be fully protected by U. S. patents, except the MIRACLE. No infringers have ever attempted to use our principles. They cannot be assailed, which fact is of especial value to all who undertake to manufacture the block.

We print here the principal claims of Miracle & Dow, Patent No. 730,780, application for which was filed Dec. 1st, 1902, final issue June 9th, 1903, now owned by the Miracle Pressed Stone Company.

We claim:

1. A building-wall consisting of concrete blocks having a plurality of rows of vertical air-cavities, the cavities of one row being opposite and longer than the intervals between those of the other rows, whereby they lap by the ends of the consecutive cavities of the other row, such blocks being assembled in the wall with their cavities registering one above the other in vertical succession to form continuous, vertical cavities in the wall.

2. A building-wall consisting of concrete blocks having two rows of vertical air-cavities, the cavities of one row being located opposite and longer than the intervals or necks between the consecutive cavities of the other row, whereby they lap by said consecutive cavities, one of the rows having at each end of the block a half-cavity constituting a notch or recess in said end, the blocks being assembled in longitudinal order, with such half-cavities registered and forming together a complete cavity crossing the junction plane.

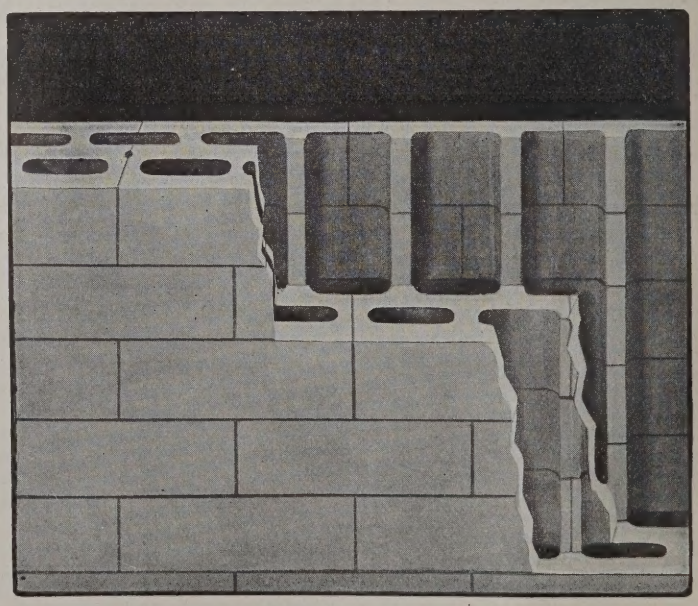
3. A building-wall consisting of concrete blocks having two rows of air-cavities, the cavities of one row being located opposite and being longer than the intervals or necks between the consecutive cavities of the other row, whereby they lap by the ends of such consecutive cavities respectively, one row of cavities comprising a half-length cavity constituting a notch or recess at each end of the block, the blocks being assembled in the wall with the row having such half-length cavities at the inner side of the wall, and with such half-length cavities matched or registered to form full-length cavities.

4. In a building-wall, concrete blocks having two rows of cavities, the cavities of one row being opposite the intervals between those of the other row.

5. In a building-wall, a concrete building-block having rows of air-cavities separated by intervening necks or webs of the concrete, abutting ends of the blocks having half-length cavities which register to form complete cavities when the blocks are assembled in the wall.

6. In a building-wall, a concrete block having two longitudinal rows of air-cavities, such air-cavities extending vertically through the blocks, the cavities of each row being located opposite the intervals between those of the adjacent row, one of the rows having at both ends a half-length cavity.

7. A concrete building-block having a plurality of longitudinal rows of vertical air cavities, the cavities of one row being opposite the intervals or necks between those of the other row, and being longer than such intervals or necks, whereby they lap by the ends of said consecutive cavities respectively.



Showing the Perpendicular Columns of Staggered Air Chambers in a Miracle Wall.

BUILDER SAVES MONEY.

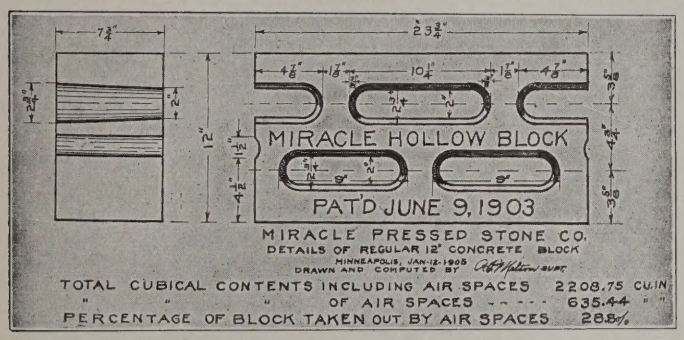
The first vital question that flashes across the mind of the builder, is the cost. "How much can I save by using concrete blocks?" The answer is, 20 per cent., and he will get a much better and more beautiful structure. By figures and the actual statements of concrete manufacturers, we arrive at the following

data which shows how this 20 per cent. is saved and that it is a conservative statement.

For equally as good a building concrete stone will displace at a saving field and quarry stone at $2.50 per perch from 25 to 40 per cent.; kiln run brick at $13.00 per thousand, 25 per cent.; stock and pressed brick at $26.00 per thousand, 50 per cent.; cut Bedford stone, $1.50 per cubic foot, 400 per cent. The percentages will vary according to the local prices and conditions, but the facts will remain approximately the same.

In addition to this saving, the builder also saves the cost of lathing and furring, which is from 20c to 30c a yard, which labor and expense cannot be safely eliminated with any form of concrete blocks except the Miracle. The plaster is applied directly to the Miracle wall. This single point has possibly more than any other made the "Miracle" the most popular block with architects, contractors, builders and owners. The very principle of the Double Staggered Air Space is accountable for safety in plastering directly on the block. Frost, heat, moisture, and other conditions which cause a wall to crack, and plaster both to crack and peel off, cannot penetrate the Miracle Blocks, as they can all other forms of building material, including single air space walls. The strongest testimonials from indisputable sources of authority testify to the great superiority of the "Miracle" from this practical point of view.

DETAIL OF THE BLOCK.


MIRACLE HOLLOW BLOCK
PAT'D JUNE 9, 1903
MIRACLE PRESSED STONE CO.
DETAILS OF REGULAR 12" CONCRETE BLOCK
MINNEAPOLIS, JAN-12-1905
DRAWN AND COMPUTED BY
TOTAL CUBICAL CONTENTS INCLUDING AIR SPACES 2208.75 CU.IN
" " " OF AIR SPACES 635.44 " "
PERCENTAGE OF BLOCK TAKEN OUT BY AIR SPACES 28.8%

The standard MIRACLE block has 28 8-10 per cent. air space, and is approved and admitted by every City Building Ordinance and Inspector in the United States and Canada.

OTHER VALUABLE FEATURES.

An important feature of the Miracle Block which particularly interests the manufacturer and the contractors, is the fact that it can be easily handled by one man. The result is that it costs less to lay than brick or stone.

It is also to be taken into consideration that cement can be shipped to almost any point of the country, and as sand, gravel and crushed stone are usually found in the vicinity of the plant, and are usually subject to no freight, or else a small one, and as from three-quarters to seven-eighths of the materials composing the blocks are found at hand, it is a matter of easy calculation to see that where a shipment of a number of materials used in building would be prohibitive on account of their weight, the cement block being made practically on the ground, is not subject to transportation charges.

It is to be remembered also that Miracle Block construction offers a wide—yes, unlimited field for architectural designing. We have molds for all requirements in all ordinary construction, having also a larger and unlimited number of additional and distinctly decorative patterns. We are in a position to make special molds according to any specifications and designs that may be sent us.

Insurance is also another interesting item. Miracle Blocks are fireproof, and consequently call for a lower rate of insurance.

A very desirable feature of the Miracle Double Staggered Air Space Block, as far as the maker is concerned, is its individuality. Those who become engaged in its manufacture have something which is identified distinctly with their business and their name. They are not hampered by others who might be making a block of a similar nature. Their block is always different, with different and distinctive merits, which no competitor can attempt to duplicate or to equal.

QUALITY VITAL.

We may go back centuries to the days when the Pools of King Solomon were built of cement; when the lookout towers of Ireland were built of cement by the Egyptian ancestors of the Irish; we may go back centuries in almost any part of the Old World and find that cement or concrete is not a product of the present generation, although it is having a new birth in modern building construction.

It needs little reasoning to convince one of the hard wearing qualities of cement. The Pools of King Solomon still furnish water to Jerusalem, and thousands of old pyramids, bridges and structures are still either standing or their ruins showing very little wear to the concrete itself. See page 2—Pantheon at Rome.

It is to be appreciated that the ancients did not have the materials for making concrete which are attainable at the present day, yet they worked "Miracles." However, the same danger existed in the early days as exists today, viz., the tendency to the use of imperfect material. Pliny states that the ruin of a certain town was caused by the fraudulent composition of cements. It is safe to state that whoever was at fault was no doubt ruined in business long before the town went down.

It is the manufacturer then of concrete blocks who must listen to the same note of warning that was justly sounded again and again in the ancient times, "Make good quality stone." Our success depends upon the manufacturers' success, hence we so often sound the warning note. No manufacturer can be successful and make many inferior blocks, and when it is just as easy and costs no more to be careful and produce quality, we do not see the reason for poor blocks from any plant. Good material is plentiful, and by following instructions we give for proportions and mixing anybody can become most successful in making good stones. We believe that all Miracle manufacturers are producing the best, for we have shown them how, but we feel called upon to place considerable stress on this point, because on it depends the success of the whole concrete industry. We urge every Miracle operator to make blocks according to the standard specifications, page 15.

THE MIXTURE.

Every department of concrete manufacture plays a very important part in making a perfect block, and each department will be taken up carefully in the following pages.

The mixture is one of the most important items, and may be partially touched upon under the subject of "Materials."

There are various opinions covering the proper proportions to be used of cement, sand and stone to produce the best block. The variety of opinions is due directly to the various sizes of sand and stone and the quality of the cement to be used. The customary usage, however, among the manufacturers of the best blocks is to use sand four parts to cement one part. The sand under this calculation is relieved of all coarse aggregates of greater size than one-half inch in diameter, and we often find them using clear sand. The cement must always be the very best obtainable, and we always advise thorough tests before tying too tightly to any particular brand; in fact, a perfect block can only be obtained by careful experiments and tests covering the proportion of all ingredients—cement, sand and water, as well as with reference to the other departments of construction. Anybody can carry on these tests successfully.

NOTICE—On page 15, see Standard Specifications for the making of Hollow Concrete Blocks, as compiled by the Special Committee for the National Association of Concrete Block Manufacturers.

PLEASE OBSERVE

That all figures and estimates in this Catalog are the most conservative from our view point, and far on the safe side for your calculations.

OUR EXTENSIVE ADVERTISING

BOOSTING THE SALE OF MIRACLE BLOCKS.

The Miracle Double Staggered Air Space Block is the only concrete block on the market that is extensively advertised. It is the only concrete block that is different from all the rest. No block has such strong features to advertise as the Miracle Block. All others are cement blocks and nothing else. The Miracle has many distinctive merits. All that is needed is to inform the public, and sales are easily made.

INFORMING THE PUBLIC.

This task is not left entirely to the man who undertakes the manufacture of Miracle Blocks. We are spending thousands of dollars advertising the Miracle Blocks in the leading and influential magazines of the country. We are bringing out clearly and forcibly before the entire American people the many strong features of the Miracle Block. Thousands of builders everywhere are inquiring about our Famous Block. In every case we give that builder full information, refer him to the party who is making the Miracle Block in his territory, and give our customer due and proper notice. This service is absolutely free to the Miracle operators.

NO EXPENSE TO OUR CUSTOMERS.

The benefit of all our advertising therefore reaches our customers first. We are benefitted only when the increased demand for blocks forces an increased demand for our machinery. We assume all the risk and expense of advertising, and yet our customers receive more benefit than we do, and at no expense whatever.

WE EVEN GET THE BUSINESS FOR YOU.

Aside from our magazine advertising, we serve in a hundred different ways to help our customers to unlimited success.

We write personal letters to your prospective customers, and make actual buyers as far as possible, free of charge.

We write and suggest ads for your local newspaper advertising free of charge.

We write, compile and print your catalog for cost of printing only.

We furnish you good literature, printed in large quantities, at reduced prices, for actual cost of printing only.

We test your material and show how to make the best concrete free of charge.

We offer the services of our Information Bureau free of charge.

We offer the services of our Advertising Department free of charge.

We give you the benefit of everything new in the Concrete industry, and we give it to you first.

We give the bottom prices.

We all work successfully together as one large—

MIRACLE FAMILY.

Working for the best interests of the GREATEST BUILDING MATERIAL, THE MIRACLE BLOCK. Don't you want to join us?

MORE OPERATORS NEEDED.

We are installing plants for making Miracle Blocks in every town and city in the United States and in many foreign countries. Nearly every prospective builder is called upon at least to consider this wonderful Building Material. The demand for Miracle Blocks is quickly getting beyond the capacity of our numerous plants. More operators are needed at once to supply the increasing demand CREATED by our extensive advertising.

Illustration No. 1—Filling the Mold.

CONSTRUCTION OF MIRACLE BLOCKS.

IMPORTANT FEATURES TO A GOOD BUSINESS.

Concrete block manufacture is certainly a good business, it requires only ordinary common sense and business judgment to succeed. Being a new business, competition is less, and opportunities are greater. Unlike almost any other business, it is not hampered by outside conditions and circumstances. It is assisted most strongly by them. Everything is in favor of success. It is as easy to make good quality blocks as poor ones, but like everything else, it requires some study and strict compliance to thoroughly tested processes. Yet this is something anybody can easily do if they will. Our customers have free access to the services of our experts in making tests, and are urged to make tests of all materials to insure perfect concrete.

MIXING.

The first essential in Miracle Block Construction is good mixing, and while, as a general rule, machine mixing is far superior, just as good mixing can, and always has been done, by hand. It only requires the proper amount of care. The sand should be measured and put into the box, the cement then also measured, and distributed evenly over the sand. With a shovel or hoe turn to each end of the box and back at least three times. In doing this several times the cheapest day laborer can learn to make a most thorough mixture. Water is then added with a sprinkler, and the mixture again turned over two or three times. As much water should be used as possible, without causing the mixture to stick to the mold. It is desired, by the way, to occasionally cover the faces of the mold with shellac, crude oil, or a solution of gasoline and paraffin so that water can be added more freely and the mixture work well.

Of course, the amount of water should be determined by test, and thus avoid experimenting with each batch. The proper proportion of sand, cement and water cannot be governed by rule, because of the various sizes, as well as its various degrees of moisture, and the various grades of cement. In making perfect blocks, the manufacturer must make his own tests, which he can easily do, or have done, to determine the best proportions for producing a block with the most crushing and tensile strength.

We give full instructions to every Miracle customer for carrying on these tests. When the best proportions are found, no further tests are necessary as long as the same sand and cement are used. As a general rule, however, a proportion of four parts sand to one part cement is used, adding all the water possible without causing the mixture to stick to the mold.

TAMPING.

Caution: In preparing to make blocks, see that all bolts holding the cores are well tightened before connecting. Select a pattern of the face plate you desire and set up the mold with back plate No. H-5, and end plates Nos. H-2 and H-3, for 12-inch blocks; or H-6 and H-7 for 9-inch blocks. (See double page insert.)

The mixture is then shoveled into the mold and two men proceed with the tamping. (See Ill. Nos. 1 and 2.) Here we have a most important, yet simple, operation. The mixture should be well tamped until all particles are thoroughly compact, forming a block that is absolutely solid, and without the smallest voids, or interstices. With a little practice, one easily realizes when the mixture has had the proper amount of tamping. After the material is compact further tamping is a waste of energy.

For the same reason, blocks made under enormous pressure instead of by tamping, are without further advantages, and are more expensive. Pressure will not make a good stone, the reason being that when pressure is applied the concrete is at once

If you are making the Miracle Block, you have something that your competitor can't touch.

The experience of others ought to be of interest to you.

Illustration No. 2—Tamping.

There is satisfaction in knowing that others are satisfied.

Begin before the other fellow does.

made compact at the top, bottom and all sides, in thin layers. These layers effectually form a seal and prevent the air on the inside from escaping and the air is compressed as the pressure is applied. As soon as the pressure is removed the air expands, forces the grains of sand apart, and makes a stone that is weak and porous and therefore easily subjected to disintegration.

In this connection, we would refer you to our process of air tamping.

To make blocks of the same consistency throughout, the tamping must be thorough and must be continued during the operation of filling the mold, so that the bottom portion will be as compact as the balance of block.

RELEASING OPERATIONS.

The molds being tamped full it is not necessary to use a trowel, merely take a wooden pallet, which consists only of smooth boards of the proper length and width, fastened together with wooden cleats. Push this pallet slowly over the mold, catching whatever surplus material there may be in a shovel which returns it to the mixing box for re-use. (See Ill. No. 3.) The mold is now ready to turn over. This is easily done. (See Ill. No. 4.) There is a flange on the farther, or back plate, which keeps the pallet from slipping. You will also observe that there are two handles on the bottom plate by which the turning is made easy. The mold fairly rolls over until it rests squarely on the wood pallet.

After turning, each operator strikes with the mallets his end of the bottom plate, an upward blow, which loosens the cores from the concrete. Then each man, lifting his end, the cores and bottom plate are lifted from the block. (See Ill. No. 5.) A lever at each end or cam fastener unlocks the front and back plates of the mold so that all sides are taken away from the block. They are again fastened to the bottom plate and are ready for a new block. While the mixer starts refilling the empty mold with the mixture he has been preparing during the tamping, etc., the operators remove the finished block for curing. By making your table in two sections you remove any possibility of jarring your fresh block while assembling the molds.

The whole operation is simplicity itself. No cogs to clog, nor mechanism to get out of order. There is a Miracle Mold for every form of block desired. Our mold parts are positive, no possible room for error, nothing adjustable, and insure square, perfect blocks as long as they can be used.

CURING.

Your block is now made, but one of the greatest essentials of a good block is curing. We quote the concensus of opinion of all well-known and successful cement manufacturers in saying that "A block well made and poorly cured, or poorly made and well cured, is worthless." No matter how much cement you may put in, how much you may mix it, and how thoroughly you may tamp it into the molds, if it is not properly cured, it is worthless. The blocks should be piled as close together as possible and kept under cover, free from the wind and frost until they are thoroughly cured. They should be allowed to set before anything is done to them. It is impossible to give them too much water. A very good idea is to have a continuous spray play on the blocks. This will insure an even cure. Water should be applied for at least seven days, or until they will absorb no more moisture. It is then desired that they cure fourteen to twenty-one days more before using. Here is where many contractors, who may be in a hurry to complete their contracts, make a mistake. It should be remembered that it is a lack of quality in the block that will ruin one. It is most desirable to keep a good supply on hand after the blocks are cured.

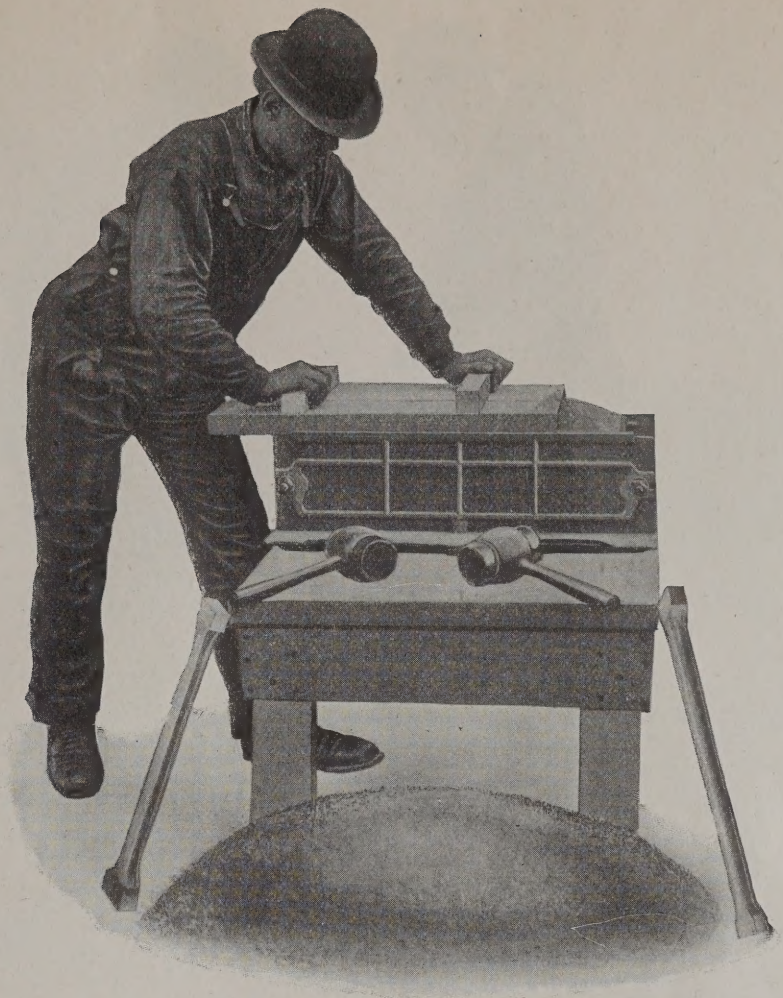


Illustration No. 3—Floating Off.

They can just as well be kept in the open, and a good supply often helps to close a large contract.

On page 15 see Standard Specifications for the making of Hollow Concrete Blocks as compiled by the Special Committee for the National Association of Concrete Block Machine Manufacturers.

THE FACING OF CONCRETE BLOCKS.

It will be noticed that the Miracle Block is not made face down. The mold is filled gradually and tamped evenly. The face, therefore, receives the same even and thorough tamping throughout. It is made the same as the balance of the block, compact and thorough.

We purposely made our mold so that the face would be tamped at the side. By the use of a thin, length-wise division plate, Miracle Blocks are faced.

A block to be the best must be made of a mixture as wet as possible without sticking to the mold. It is easy to see that the same mixture will stick more easily and quickly to the face of a block, which is tamped face down, than to the face of the Miracle Mold. The face, therefore, which is a most important part of the block, both as to design and as to the non-porous qualities of the block, cannot be as perfect as it might be without forfeiting other valuable qualities.

It must have even quality through and through. The Miracle Block is made with as good material in the back of the block where strength is needed most, as in the face, which represents the outward appearance and which combats with the attacks of severe weather and vice versa. No part of the Miracle Block is slighted in order to allow for better material on the face. "Good blocks through and through" are wanted of all Miracle Operators and our machines for making them are such that they are more easily and more economically thus made than not.

COLORED STONE.

Satisfactory coloring of concrete has only recently been accomplished, but it has been done successfully, and by using natural pigments, or, in other words, by using colors whose ingredients are natural colors taken from the earth and not chemical compounds, very satisfactory and lasting colored stone can be made. Miracle Blocks have been colored very successfully and at a very slight expense. The entire subject of Miracle colors is covered in this book. It is the first complete line of dependable colors ever offered. The colors are permanent and the cost is very little. Miracle Blocks are usually colored on the face only, although many color them throughout.

CAPACITY.

So much has been said regarding the capacity of machines, and we read of the phenomenal runs of thirty minutes or an hour, or of the short time it takes to make one block—claims that on their face are unreasonable. As we all know, there has to be a certain amount of material in every block, and the same must be thoroughly tamped. Our claims are not based on a 15 or 20 minutes' or even a day's test, but from actual experience, week in and week out, throughout an entire season. We have found that a team of three men, two to tamp and one to mix, will work to the best advantage, and that they will mix material for and produce 150, 8x9x24-inch blocks every day, and have plenty of time to care for the blocks made the two preceding days, that is, wet down the blocks made the day before, carry to the storage yard the ones made the second preceding day, and return the pallets to the mold ready for use. This is with one mold and hand mixing. Remember, we furnish two distinct molds in Exhibit "A," and you can easily double your capacity by doubling your number of men; or, if you desire to increase your force you will find fifty blocks per man for every ten hours a fair average, some make sixty.

Miracle CONCRETE

Take advantage of our extensive advertising.

The Miracle Block, the block with a distinctive feature.

And combines all the Points of Merit.

Illustration No. 4—Turning.

Miracle Blocks, the kind specified by two Governments.

The Miracle Block is the only moisture proof block.

We carry a complete line.

COST.

With a MIXTURE of one part of cement and four parts sand, three men will make 150 or more standard size blocks, 8x9x24-inch, per day, and for this you will require six barrels of cement, 3½ yards of sand. Now, figuring the labor, sand and cement at fair, average prices, we make the following deduction:

3 men at $1.75 per day	$ 5.25
6 barrels of cement at $1.70	10.20
3½ yards of sand at 50c	1.75
Total, 150 blocks	$17.20

Dividing this total by 150, the number of blocks produced by one mold, we have an average COST of a trifle over 11 cents each. If any of our figures do not correspond with the local conditions which you have to contend with at your town, revise them, substitute prevailing prices, and thus arrive at what they will actually cost YOU.

Miracle Blocks can be laid in the wall for 5c a cubic foot and good wages made by the mason. (See special instructions on the laying of Miracle Blocks, under General Information in Index.)

SUMMARY.

WHY THE MIRACLE BLOCK IS THE BEST. DEMONSTATED FACTS, NOT THEORIES.

1. It is made of concrete, recognized and demonstrated to be the most durable building material.
2. It grows harder and better with age.
3. It forms continuous air chambers from the bottom to the top of a Miracle wall.
4. Its staggered air space principle makes each air chamber back up a section of solid wall. There is no direct connection between interior and exterior walls.
5. It is made by tamping, not by pressure; therefore, it is of uniform texture throughout.
6. It forms the strongest walls.
7. It is frost and moisture-proof.
8. It is fireproof and indestructible.
9. It saves the builder at least 20 per cent.
10. It calls for no lathing or furring, and makes a perfect job with only a thin coat of plaster applied directly to the inside of the Miracle walls.
11. It needs no painting.
12. It has the appearance of the best cut stone when laid, and will wear better.
13. It is made by local manufacturers, therefore saves freight and employs home labor.
14. It is easily laid by one man at 30 to 40 per cent cost of laying brick, and 50 to 75 per cent of stone.
15. It is laid with cement mortar so that the joints become part of the wall.
16. It offers an unlimited field for architectural designing.
17. It has demonstrated its great value in the past.
18. It is performing "Miracles" at present.
19. It is the building material of the age.

Standard Specifications.

Cement Users' and Builders' Guide.

The following are the specifications for the making of hollow concrete blocks, as compiled by a special committee and adopted by the National Association of Concrete Machinery Manufacturers, and approved by the Northwestern Cement Users' Association, the Iowa Cement Users' Association, and others.

Owing to the lack of proper instructions some concrete block manufacturers have unfortunately fallen short of perfection in their product. Some inferior blocks were made by early manufacturers through inattention to instructions and lack of experience. Some did not use enough cement; some mixed it poorly and others did not use enough moisture in curing. Many good blocks also have been poorly laid. Under the following specifications, which are clear and simple, and which are dependable and worthy of careful study, there is not the smallest opportunity of producing a poor concrete block. The result is that the former injury to competent, conscientious and good quality cement block manufacturers is eliminated and the obstacle to further adoption of this most excellent and promising building material has been done away with and the building public is protected.

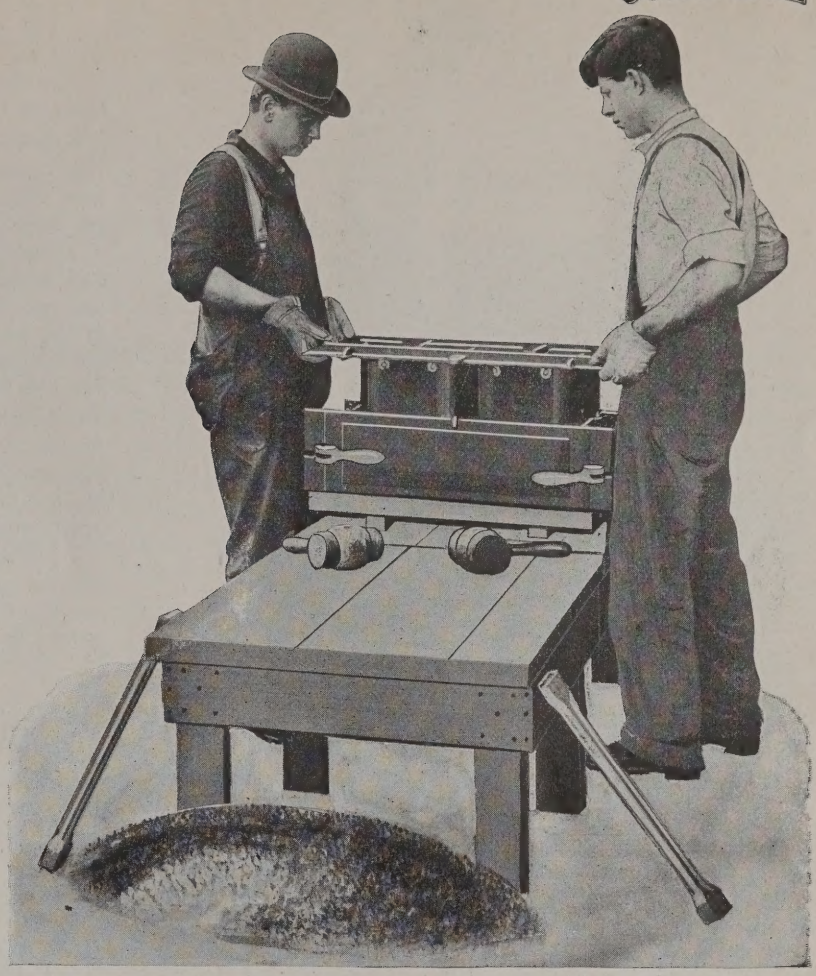


Illustration No. 5—Removing the Cores.

DEFINITIONS.

SAND.

Such material as will pass through a screen ¼-inch mesh, and is retained in screen having mesh 1-64 of an inch. This applies to river sand, bank sand, or screenings from a stone crusher.

GRAVEL.

Such material, obtained either from bank or river, of such size as is retained in a screen having ¼-inch mesh.

CRUSHED STONE.

Such stone from a crusher as is retained in a ¼-inch screen.

BANK GRAVEL.

Such material as is obtained from a pit or river containing both sand and gravel.

AGGREGATE.

Any material, such as broken stone, gravel, or other fragments used with cement and sand mortar in making concrete for the purpose of reducing the cost and adding to the strength.

VOIDS.

The space existing between particles of sand, crushed stone, or materials of which an aggregate is composed.

CEMENT.

Any American or imported Portland cement, which will pass the tests required by The American Society for Testing Materials.

QUALITY OF SAND.

Sand suitable for concrete work must not be finer than the above described; must be sharp and gritty; not soft or loamy; must be free from loam or other foreign material, and must not contain any perceptible amount of clay, or other soluble matter. Some authorities concede that clay to the extent of ten per cent. in sand or gravel is not harmful. This committee is of the opinion that any perceptible amount of clay is unsafe. Crushed stone must be reasonably free from dust, and must be retained on the same sized screen as bank sand, viz., ¼-inch. Gravel or crushed stone must be free from loam, dust, or other foreign material, and must contain no soft or rotten stone.

DETERMINATION OF AMOUNT OF CEMENT TO BE USED WITH AGGREGATE.

A theoretically correct concrete should consist of sand and gravel, or crushed stone, or a combination of them containing any amount of cement equal to the voids in such combination. In other words, interstices should be filled with cement.

To state this in another way, if the concrete is made up of sand and gravel, such proportion of cement should be used with the sand as is equal to the voids in the sand, and such quantity of this resulting mortar of sand and cement should be used with the crushed stone or gravel, as will fill all voids in the crushed stone or gravel.

Re-stating this in a few words, the cement should fill the voids in the sand, and the resulting mortar should fill the voids in the aggregate.

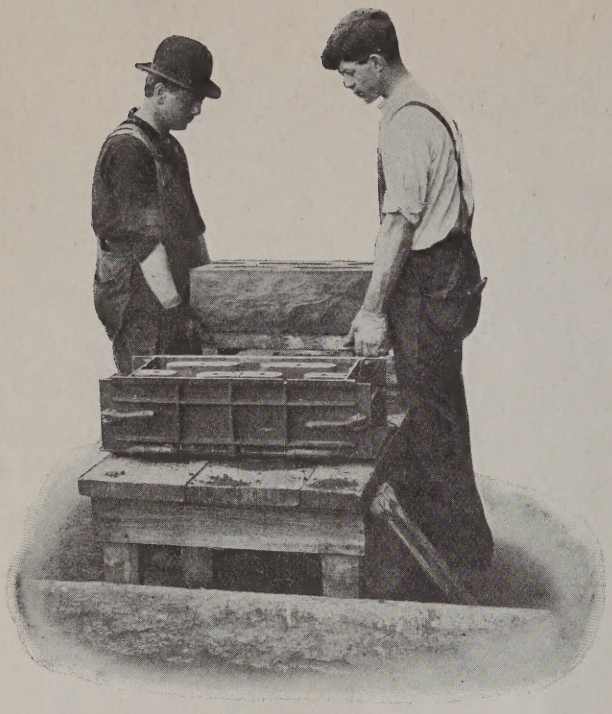


Illustration No. 6—Removing the Block for Curing

DETERMINATION OF VOIDS.

To determine the voids in the sand, or the material to be used as an aggregate, what is known as the "water test" is employed. In preparing for this test the sand or gravel must be perfectly dry. Sand has greater volume when wet.

A receptacle holding a known amount, such as a quart jar, is filled with the material to be tested, sand for example, and into this receptacle is poured as much water as the sand, or other material will absorb. The water should be measured. The amount of water absorbed indicates the voids, and also indicates the exact amount of cement which it is necessary to use in order to produce a solid concrete.

In making hollow blocks, if no gravel or other coarse aggregate is used, the result of this test should give the proportions of sand and cement to be used in block manufacture. Average sand will absorb 20 to 30 per cent. of water, indicating from 20 to 30 per cent. of voids also indicating that the proportion of one part cement to from three to four parts of sand are required to make a solid block.

The proper selection of sand and aggregate material is important. Care should be taken that the particles vary so in size as to reduce the voids to the smallest amount possible. With this careful selection the amount of cement required to produce good work is greatly reduced.

MIXING.

After the materials are selected, they should be mixed together dry, until thoroughly incorporated, or, in other words, until the mass is of an absolutely uniform color. Water should then be applied, and the thorough mixing repeated. The amount of water should be in all cases as great as possible, without causing the materials to stick to the molds when the stone is removed.

A little more care in the treatment of the face plates of any machine will enable the manufacturer to use a wetter concrete than is usually employed. Only such size batches should be mixed at one time as can be used up within thirty minutes from the time the water has been added.

MANUFACTURING.

The concrete should be placed in the mold in small quantities, and tamping should begin immediately upon the placing of the first shovelful, and continue until the mold is full. The material should be tamped with a tamper having a small face, and short, quick, sharp blows should be struck.

In faced blocks, the face should be composed of two parts sand and one part of cement, the same being mixed in the manner described above.

Owing, however, to the excess of cement used in facing, and owing further to the fact that the cement is what makes concrete sticky, the facing cannot be used as wet as the balance of the block is made. Great care should be taken to tamp the concrete thoroughly into the facing, so as to unite the two into one solid stone.

In the wet process the amount of water used is such as will produce a plastic, or flowing condition, in the concrete, but not enough to wash the cement from the other material. When placing the material in the molds the entire mold is filled with one pouring.

No stone having transverse ties or webs cracked should be used or even allowed to cure. Should a slight crack occur in moving the green stone, throw the material back, and make it over. In no case use a cracked stone in a building.

CURING.

All stone made by the medium wet, or medium dry process, should be made under cover, and kept under cover for at least ten days, protected from the dry currents of air. If shed room is not available to store a ten days' output, the blocks should be carried out after the initial set has taken place, and covered with canvas, hay or other covering, which will retain moisture, and at the same time keep the dry air from circulating around the block. Under no circumstances should blocks be made under the direct rays of the sun, nor should blocks made by this process be exposed to either sunshine or dry winds while curing.

The blocks should be gently sprinkled as soon as possible after making, that is, just as soon as the cement has set sufficiently that it will not wash. Blocks should be kept wet from ten days to two weeks, and should never be removed from the yard for the purpose of using in a building until they are from thirty to sixty days old. THIS IS VERY IMPORTANT. A green block will surely crack in the building on account of shrinkage.

LAYING.

In laying cement stone a soft mortar composed of one-half cement mortar and one-half lime mortar should be used. This mortar should be made with fine sand free from stone, and should be buttered on the ends of the stone before laying. The stone should be laid in the mortar and worked down. Do not leave end joints open until after the building is completed, because when the end joints are filled at this time shrinkage in mortar is liable to loosen it, causing the mortar to fall out, leaving openings through the wall.

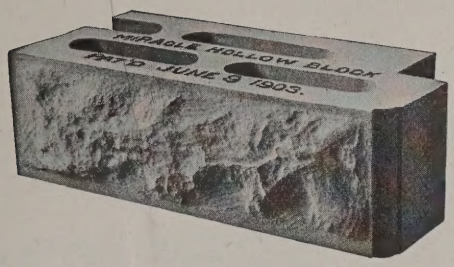
The spreading of mortar is very important, because if mortar is unevenly spread so that it is thicker under one portion of the stone than under the other, a leverage is created, which under the weight of the wall above is liable to produce a crack in the stone. There is a slight taper to the core, which makes the air spaces in the Miracle block. In laying the blocks you will have better space for mortar, and blocks will be better by laying them with the small end of the air spaces up.

COLORING.

In using coloring matter with concrete, the color should always be mixed with the cement dry, before any sand or water are added. This mixing should be thorough, so that the mixture is uniform in color. After this mixing the combination is treated in the same way as clear cement.

The GREATEST BUILDING MATERIAL

Condensed Facts Showing Why Miracle Blocks Are Best for Builders, Contractors and Owners.



Reveal Block for Boxed Window Frame.
Pattern 9-in. Block H-163. Price $2.50.
Pattern 12-in. Block H-165. Price $3.00.

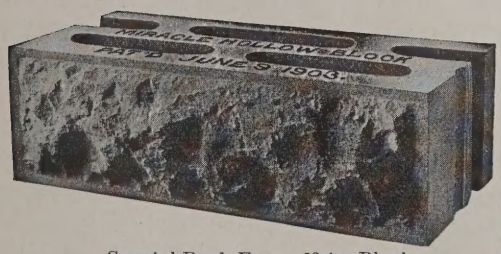
It is made of CONCRETE, which is stone, not "artificial," but "real" in its properties. It is made by a correct scientific composition of sand, gravel or crushed stone, good Portland cement and water. A perfect crystalization of the cement by means of the water forms with the aggregate a hard, impregnable solid, which grows harder as it grows older. History verifies this fact.

MATERIAL THE OLDEST AND BEST.

CONCRETE is not a new product of to-day. It is an old product of the early ages. Its hard wearing qualities through centuries of weather have aroused the people of to-day. It is having a new birth in modern building construction. Ninety per cent. of the material in our largest and finest buildings is CONCRETE.

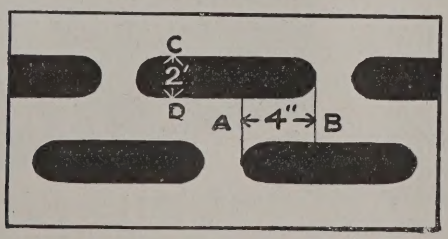
Special Rock Face. 12-in Block.
Face Plate H-192.
Price $7.00.

THE MIRACLE BLOCK ADDS DOUBLE STRENGTH TO THE WALL.

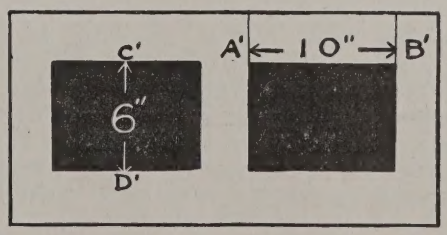


Special Rock Face. 12-in. Block.
Face Plate H-194.
Price $7.00.

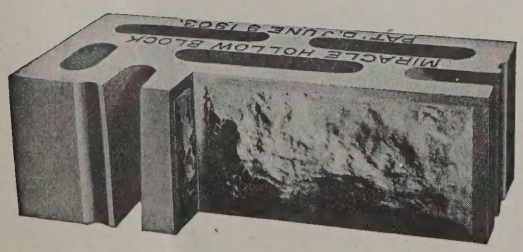
No one doubts the strengthening value of an air space when in the form of a hollow iron tube. In the form of a stone column the principle is the same, and the hollow column is stronger than if it were solid. In the form of a cement wall, with single air spaces, there is a series of hollow stone columns each firmly united. In a wall of double staggered air spaces there is a double series of hollow stone columns alternated and firmly united. It is therefore the strongest possible form of wall.



Showing the Narrow Spans in a Miracle Block.



Showing the Wide Spans in a Single Air Space Block.



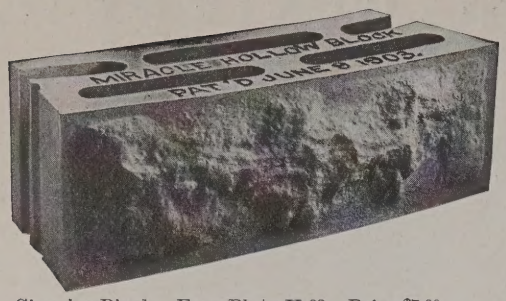
Rock Face Interior, 9-inch Wall.
Face Plate H-175X, H-175.
Price $10.00.

ANOTHER REASON FOR STRENGTH.

The Miracle Block gains in strength over most single air space blocks in the following particulars:

The distance between connections of solid concrete is less. See illustrations on this page. In ordinary blocks the air spaces are about 10 inches long, necessitating a 10-inch span between solid connections. In the Miracle

The Greatest Building Material—Continued.



Circular Block. Face Plate H-22. Price $7.00.
Back Plate H-5. Price $6.00.
In ordering specify inside diameter and width of block.

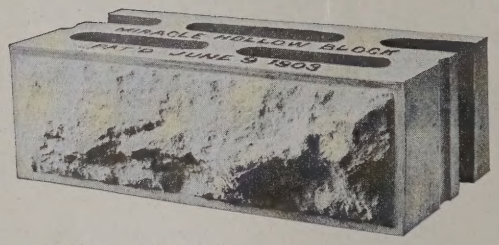
Block there is only 4 inches between connections, which are staggered, therefore strengthen any possible weakness caused by an air space.

In addition to this there are three solid walls of concrete firmly connected at alternate points by short two-inch spans of concrete, while the single air space block only has two walls connected every ten inches by at least a four-inch span of concrete.

A CONTINUOUS AIR SPACE WITHOUT SACRIFICING STRENGTH.

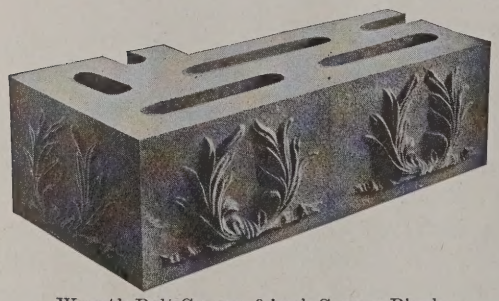
By the Doubled Staggered Air Space the effect of a continuous air space completely throughout the building is obtained, yet retaining the full strength of a "one-piece" wall. In the Miracle Block there is no point of direct connection between exterior and interior walls. Every section of contact between walls is broken by an air space. It forms a truly hollow air space completely around the building, yet the entire weight of the building does not rest entirely on any inner wall or veneer, as it does in some forms of concrete construction. It rests on one solid wall of nine or twelve-inch thickness.

The Miracle Wall therefore forms a complete air space and has double strength combined.



Special Rock Face. 12-inch Block.
Face Plate H-193.
Price $7.00.

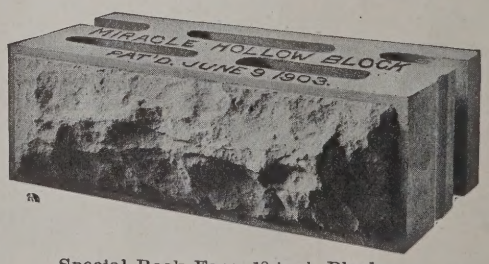
FROST AND MOISTURE PROOF.



Wreath Belt Course, 9-inch Corner Block.
End Plate H-72. Face Plate H-70.
Price $3.00. Price $6.00.

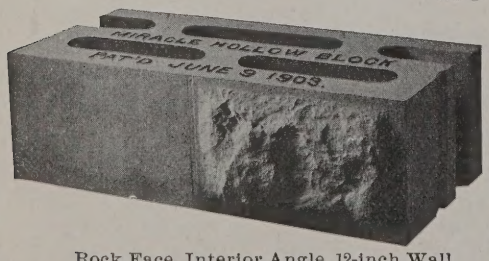
The Miracle Block forms a building that is positively Frost and Moisture Proof. Why? Because air space is a non-conductor of frost and moisture and because air spaces entirely surround the building. There is nothing directly connecting the inner and outer surfaces of a Miracle Wall. Every section of concrete is backed by an air space. Frost and moisture or heat cannot enter a Miracle Wall at any point without striking an air space where it becomes ineffective by diffusion. Were it to encircle the air space (which it has no tencency to do), it would become thoroughly filtered on account of so much air on all sides before it can travel one-half the necessary eighteen or twenty inches.

The reason why walls "sweat" is found in the fact that warm air coming into direct contact with a cold surface, condenses the moisture in the air, and we say the walls "sweat." As the heat from the interior air warms the inner portion of the Miracle Block, and the double staggered air spaces are in the direct path of the radiation the inner surface never gets cold, hence never "sweats."



Special Rock Face, 12-inch Block.
Face Plate H-196.
Price $7.00.

NO FURRING AND LATHING.

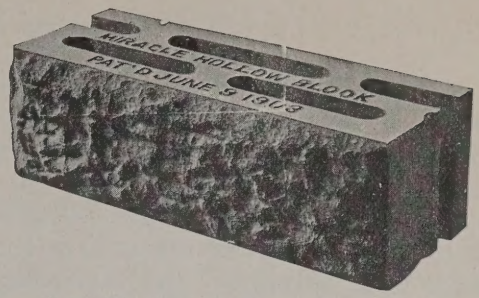


Rock Face, Interior Angle, 12-inch Wall,
Face Plate H-29. Price $6.00.

Plaster is safely applied direct to the back of a Miracle Wall. Frost and moisture are the elements which make plaster crack and peel off. Since no frost or moisture can reach the inside of a Miracle Wall, plastering direct is perfectly safe. This statement is not based upon mere theory. It is confirmed by the experience and statements of hundreds of builders and owners. By using the Miracle Block, therefore, there is a saving from twenty to thirty cents a yard usually

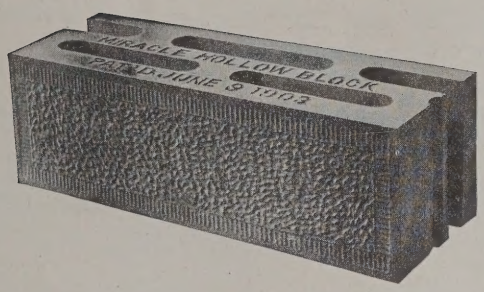
spent in lathing and furring. This labor and expense cannot be safely eliminated with any other form of Block except the Miracle.

Another great advantage in eliminating the furring and lathing is that there is nothing to decay. In single air space block buildings, or solid brick walls, frost penetrates and causes a sweat which in time causes decay to the lathing and furring. The Miracle Block avoids all this.



Rock Face Without Margin, 9-inch Block.
Face Plate H-94. Price $6.00.

FIRE-PROOF.



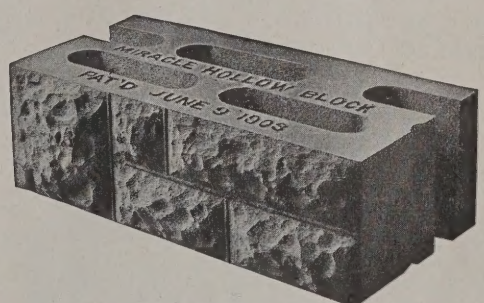
Hammered Face, 9-inch Block
Face Plate H-12

CONCRETE itself is fire-proof. The Double Staggered Air Spaces of the Miracle Block again serve a further important duty. They cause a double circulation of air from top to bottom, both near the hot surface and the cool surface of the wall, whether those surfaces be inside or outside the building, in such a way that the heat does not crack, or check the wall. This feature has been tested in every possible manner, both by actual fire tests and by actual fires in and around the buildings built of Miracle Blocks. The result in every case has been in favor of Miracle Blocks as a fire-proof building material. A building of Miracle Blocks, therefore, calls for the lowest rate of insurance.

AT LEAST TWENTY PER CENT. SAVED.

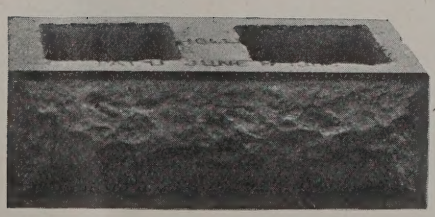
For equally as good a building of any other material, builders using Miracle Blocks at a cost of 40 to 50 cents each save at least 20% of their money. It is estimated by figures based upon actual cost of material and labor, that Miracle Concrete Blocks will displace at a saving, field and quarry stone range work ($2.50 per perch) 25% to 40%; pressed brick ($26.00 per M.) 50%; cut Bedford stone ($1.50 per cubic ft.) 400%.

These percentages are conceded to be fair averages. In localities where lumber is high priced, there is a slight saving by using Miracle Blocks. Where lumber is sold at a reasonable price, the cost with either material is usually about the same, but the Miracle building is at least 50% better than the wooden structure.



Broken Ashlar Face, 12-inch Block.
Face Plate H-140. Price $8.00.

A SAVING AT EVERY TURN.



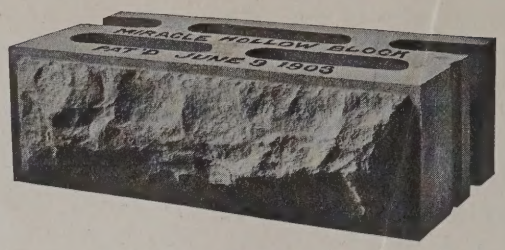
Two-Flue Chimney Block, 12-inch Wall.
Face Plate H-193.
Price $7.00.

Aside from the minimum 20% saved according to the foregoing paragraph, the Miracle Block has many other interesting "money saving features." It is easily laid in the wall by one man at a cost of 15% to 50% less than brick or stone. There is no painting bill every other year as with wooden buildings. The insurance risk is much less. It is, or always can be, made by local manufacturers with mostly local material, therefore large freight bills are saved where other building material must be shipped from a distance. Furring and lathing may be eliminated and plaster applied direct.

The Greatest Building Material—Continued.

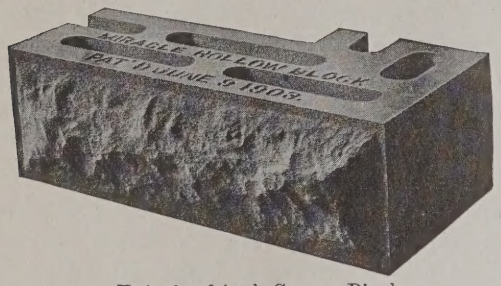
EVEN QUALITY THROUGH AND THROUGH.

The Miracle Block is made with as good material in the back of the block, where strength is needed most, as in the face which represents the outward appearance and which combats with the attacks of severe weather and ***vice versa.*** No part of the Miracle Block is slighted in order to allow for better material on the face. "Good blocks through and through," are valuable instructions to all Miracle operators and the machines for making them are such that these instructions are more easily and more economically carried out than not.



Special Rock Face, 12-inch Block.
Face Plate H-195.
Price $7.00.

WELL TAMPED.

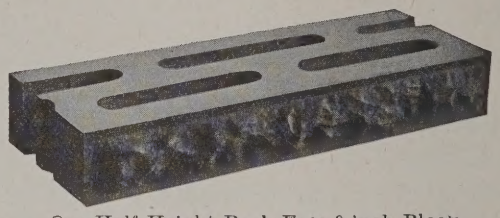


Exterior 9-inch Corner Block.
Face Plate H-62.
Price $7.00.

All Miracle Blocks are thoroughly and evenly tamped from the bottom of the mold to the top, as the block is being made. All the particles must be tamped thoroughly compact all the way through and all air must be thoroughly worked out from the bottom of the mold to the top, as the loose material is forming a solid. In this way, and in this way only, can the best cement blocks be made. The Miracle Machinery allows for no other method.

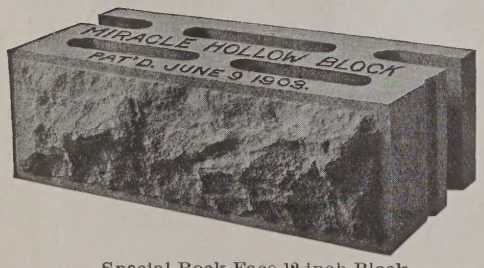
TIGHT JOINTS WITH MIRACLE BLOCKS.

See that groove in the end of every Miracle Block? It insures an absolutely tight joint. When blocks are placed end to end, these grooves form oval or oblong openings the full depth of the block into which soft slush cement is poured, sealing every joint absolutely tight. Even a good block is worthless if not laid properly. Miracle Blocks are made so they will be laid properly.



One-Half Height Rock Face 9-inch Block.
Face Plate H-90. Price $6.00

PERFECT NATURAL FACES.

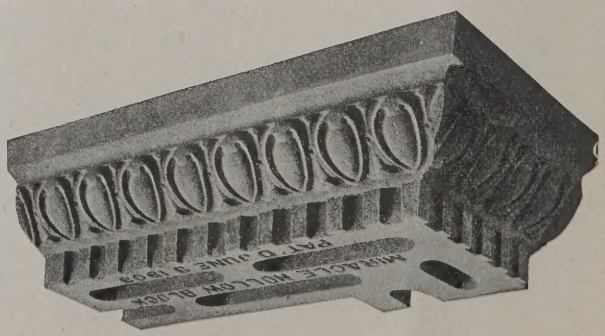


Special Rock Face 12-inch Block.
Face Plate H-197.
Price $7.00.

In making the face plates for Miracle Machines, much care and money is spent to secure a perfectly natural pattern. The best stone is cut and prepared to the proper size and the patterns made from the original stone. In this way, and by using the very best quality of iron, face plates are perfected which insure perfect, natural and sharp Rock Face Miracle Blocks. Every plate of the Miracle machine is strongly reinforced so that every block, especially the face, is square and true. Miracle Blocks cannot be found where the face shows a curved surface, as is often found in blocks made on other machines.

UNLIMITED FIELD FOR ARCHITECTURAL DESIGNING.

Miracle line of Cement Machinery is so complete that all forms and styles of buildings can be built of Miracle Blocks. There is no end to the possibilities in architectural expression through the medium of the Miracle Block, and there is nothing in that line which any architect may specify that cannot be made on Miracle Machinery. As beautiful residences, in fact, as beautiful buildings of any kind, can and have been designed and erected of Miracle Blocks as have been built of any other material.



Egg and Dart Cornice, 9-inch Wall. See Index.

PRIZE CUP

GIVEN TO THE

MIRACLE PRESSED STONE CO.

By the MINNEAPOLIS COMMERCIAL CLUB,

FOR

Most Complete Exhibit of Concrete Machinery.

At Convention held in St. Paul, 1907.

THE PORTLAND GRAND MEDAL.

Awarded the Miracle Pressed Stone Company.

It is a significant fact that at the first and only large fair at which we had an exhibit, we were awarded the Grand Gold Medal. The awarding committee for the Lewis & Clark Centennial Exposition at Portland, Oregon, awarded the Grand Gold Medal, which is the highest prize for concrete building blocks, to the Miracle Double Staggered Air Space Building Block.

This will be of special interest to those about to buy a machine, because they, of course, want to know positively which Block is the best and which Block has the most merits. The awarding committee at Portland pronounced the Miracle the best. They based the award upon the distinctive features of the double and overlapping air spaces, running vertically in the wall, allowing the air to circulate naturally up and down, giving additional strength and proving absolutely moisture and frost proof. These points of merit so far surpassed everything which other blocks could show, that the prize was easily won.

MIRACLE INFORMATION BUREAU.

FOR THE BENEFIT OF CUSTOMERS AND FRIENDS EVERYWHERE. SPECIAL DEPARTMENT IN CHARGE OF COMPETENT SPECIALISTS. THREE DEPARTMENTS.

For the benefit of our customers, present and prospective, we have established a Bureau of Information, in charge of men who are foremost in their respective lines of work. To facilitate the work, we have divided it into three distinct departments, as follows:

The Material and Mixing for Cement Products. The Molding and Tamping of Cement Products. The Curing of Cement Products.

UPON THE QUALITY OF THE BLOCK RESTS ITS SUCCESS.

We are vitally interested in the success of the Concrete Industry, and therefore, will do our part to keep it growing.

The services of this special department with its specialists as correspondents and as advisers are hereby placed at the command of our customers and friends, both at home and abroad. It is the business of these specialists, and will be their pleasure, to answer questions that are asked in good part for a practical purpose, and to offer suggestions and advice; in short, to be of help in any way they can that is consistent with their position and duties.

We hope all cement users, or prospective cement users, will feel free to write to us at any time, making their wants known, and depend upon us for a prompt and courteous reply. Address, Information Bureau, Miracle Pressed Stone Company.

BOOK OF CONCRETE HOUSE PLANS.

A Handsome, Practical Portfolio prepared primarily to meet the demand of Miracle Concrete Block users.

There is a demand for the services of many architects in planning and designing dwellings and other houses to be built of the greatest of modern building materials, concrete.

The purpose of this book is to place at the disposal of those who wish to build of concrete, a number of plans of houses that have passed through the initial stages—houses that have already been built and have proven successful.

The elevations and general views are from photographs; and the floor plans (and details where given), are from the actual architect's drawings. The houses shown include cottages, bungalows, stables, city and country homes, banks and other medium size buildings.

It is contemplated to add to and enlarge this portofolio as rapidly as new plans and new photographs are prepared—the purpose being to select only the best types and most satisfactory plans.

As may be inferred, the object of this publication is not to make money out of the sale of the book of plans, nor even out of the sale subsequently of the working drawings. What we wish above all, is to show to the prospective user of Miracle Concrete Blocks that he has here a material that lends itself to the highest form of architectural design.

We wish this fact to be remembered, above all others, that as a log house is different from a frame cottage, and either may be pretty, if the design is adapted to the material, so a concrete building based upon a design suitable to the material should be a most satisfactory architectural creation. Concrete houses built in the past few years have not always been pleasing in design, but the reason is, that the attempt was made to imitate a style of architecture suited only to frame or brick. Now that concrete is recognized as the greatest of modern building materials, it will be found not only the most economical, but the most adaptable of all. This book is intended as a step in that direction—the best that can be done at this time. Price, 50 cents.

MIRACLE EQUIPMENT

MERITS.

SIMPLICITY OF PRINCIPLE.

We have found that the Miracle Exhibit "A" Machine, on account of its extreme simplicity and wide range of capacity, gives the greatest degree of satisfaction to our customers. Each Exhibit "A" Machine is practically two machines in one, consisting as it does, of two complete bases with separate sets of cores, one for making blocks 9 inches in thickness, the other for making blocks 12 inches in thickness. All face plates for different designs come in complete sets for making each design any length from 6 inches to 24 inches, and these plates are all adjustable to either base. They can therefore be operated as two molds at once, with separate crews of men.

We avoid all cogs, gears, cranks, or other objectionable features which are continually clogging or getting out of order. With the Exhibit "A" outfit you produce perfect blocks with clean cut sharp corners and edges, and every one of perfect shape and exact size. This is absolutely essential, as it is impossible to produce a perfect wall out of blocks of irregular size. Get the Miracle Machine which insures a perfect product.

MANUFACTURE.

In the manufacture of these machines we exercise great care to obtain a perfectly natural pattern for the various designs of faces, and at a great expense stone is cut and prepared the exact size of the pattern to be made, whether it be in rock face, hammered face, or beveled stone. From this stone is taken a large number of Plaster of Paris impressions. Invariably, nine out of ten of them are lost by breaking before a perfect iron pattern is secured. In making these preliminary patterns we estimate precisely the proper allowance for the double shrinkage which takes place in making the iron pattern, and from it the regular castings. Castings for face plates in this outfit are made with unusual precautions; only the very best quality of iron is used. A special molding sand, costing $100.00 a ton, is necessary to produce the clean-cut, defined patterns.

THOROUGH INSPECTION.

In ordinary machine work, slight defects in castings are covered up with what is known as an iron cement and paint, and are seldom noticed until in actual use. But with the Miracle outfit none of these irregularities can possibly occur. No expense is spared to make every individual part exactly fitted for its purpose and of the highest degree of quality obtainable. Every part coming from the foundry passes through the hands of an expert for inspection, and if the slightest trace of irregularity appears in any casting, it is immediately thrown to the scrap pile. The perfect parts are distributed to the various machines, which are operated by skilled mechanics, and by means of shapers, planers, emery wheels, filings, etc., the plates are brought to the highest state of perfection. Every edge is ground to a true plane, every joint made a perfect fit—all tips and bolts are chilled steel, and fitted with skill and preciseness.

CAREFUL TESTING.

When the plates are ground, planed, bored and perfected, they are then transferred to the assembling room, where experienced mechanics actually fit and inter-fit all the parts of every machine separately. Here another rigid inspection takes place, to see that every part is perfect, and that the machine is absolutely true to the square and perfect in every detail, and all parts checked in. It is then sent to the packing room, where each machine is again checked for shortage.

REINFORCEMENT.

We find that most machines on the market soon give way, as they cannot stand up under the vigorous tamping which it is necessary to give the material in order to make a perfect stone. The "Miracle System" of reinforcing and bracing all plates, as shown in mold plates in accompanying illustration, (page 25 insert) insures them indefinitely—they never give out. The back side of each face and back plate is strengthened with reinforcing ribs so that they absolutely cannot spring.

FACES EXPLAINED.

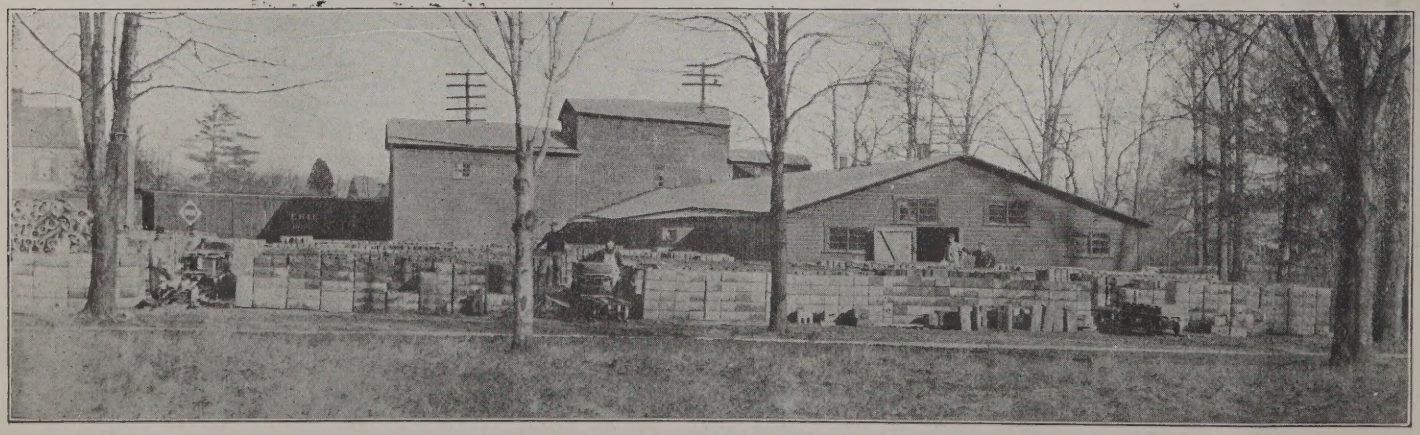
The Plain Face Plates produce a block equal to the most expensive rubbed stone.

The Rock Face Plate designs are taken from natural stone, and imitate it perfectly.

The Hammered Face Plates have a tooled margin and the product is a marvel of beauty.

The Bevel or Paneled Face Plates are a work of art, and a wall laid of these stones is the most pleasing to the high-class architect.

The Water Table Plates produce a stone for water table, 1½ inches thicker than the regular size, with a beveled wash of 1½ inches, and gives the building a very finished appearance.



AN UP-TO-DATE MIRACLE PLANT

EXHIBIT "A."

A THOROUGHLY COMPLETE AND PRACTICAL OUTFIT.

A more complete and generous outfit for launching into the concrete industry has never been produced, nor has anything as good ever been attempted, as our Exhibit "A." It is not experimental. We did not place it upon the market until from exhaustive and expensive experiments, we found that it was simplest and by far the best from a standpoint of utility, speed and endurance that could be produced. We were right. There is nothing that can equal it. Its many years of usefulness demonstrate that point conclusively. Aside from this it produces a block that no other machine can, viz., the Miracle Double Staggered Air Space Block. Further—the mold is perfect and is guaranteed to produce perfect blocks as long as it can be used.

MORE EXHIBIT "A" MACHINES IN USE THAN ANY OTHER MAKE.

In spite of its being in existence only four or five years, there are more of our Exhibit "A" Outfits in successful operation in the United States and foreign countries than any other two machines combined. Statistics show conclusively that there are more successful operators of the Miracle Exhibit "A" Outfit than with any other machine.

DOUBLE CAPACITY.

As will be noticed, there are two bases sent with every Exhibit "A" Outfit, one for a 9-inch block, and one for a 12-inch block. Any of the various face plates can be used on either of these bases. All ends and face plates are interchangeable upon these two bases, which, in reality, give you two complete machines. Therefore, both bases can be in operation at the same time, one making 9-inch blocks and one making 12-inch blocks of all the different face designs. This double capacity is not possible with any other machine, yet is of inestimable value to the purchaser. It often-times saves the buying of an extra machine.

PRACTICAL SIZE BLOCKS.

The sizes of stone made on the MIRACLE Outfit are approved by the best mechanics the world over. We have arrived at a practical weight and size, and have a well proportioned stone, a sort of happy medium between the too heavy and too light. A 32-inch stone, weighing 140 to 160 pounds, is awkward to handle from the time it is taken out of the machine until it is laid in the wall. A 16 or 18-inch stone is too small and requires too much handling to produce a wall. The "MIRACLE" standard sizes, 12x24x8-inch, and 9x24x8-inch, weighing 100 pounds and 80 pounds, respectively, can be handled with ease by one man. Twenty-four inches is the standard length of "MIRACLE" blocks. All face plates come in sets to produce full length (24-inch), three-quarters length (18-inch), half-length (12-inch), and one-quarter length (6-inch). All our face plates are carefully made and machined, so as to produce blocks which are unequaled in design and perfect in shape. Special sizes of molds may be obtained if necessary, though the standard sizes are usually accepted.

SPECIAL GUARANTEE.

We, as a corporation, guarantee every Miracle Machine, especially Exhibit "A," to be exactly as herein represented; that they will be complete in detail, perfect in construction, and without flaws.

Our Guaranty Bond (see the back of the Order Blank) is the most fair and liberal proposition offered by the manufacturer of any machinery. It means just what it says and we carry out its terms cheerfully.

THE DIFFERENT PLATES.

The regular complement of Face and Design Plates consists of 35 Plates which are interchangeable, and produce Plain, Chipped Rock Face with plain margin, Hammered Rock Face with margin, and Bevel or Paneled Faces, Water Table Front and Ends. They are cast and ground for every manipulation for 6-inch, 12-inch, 18-inch and 24-inch lengths, and still maintain the invaluable Double Air Spaced feature. In addition, face plates are furnished to make ½-plain ½-rock face with margin, or ½-bevel or panel face blocks, which are used for joining angles. Three special angle backs, No. H-8 for 9-inch corners, No. H-65 for chimneys in 9-inch wall, and No. H-54 for water table corner blocks, are included. Three extra heavy, plain, straight back Plates, No. H-5, H-5, H-53, are furnished, that both sets of Molds may be operated separately, and at the same time without annoyance. In this connection, permit us to emphasize that in adjusting or changing faces or end plates for producing the different designs, no bolts or hinges are used. Therefore the exchange can be speedily made, and a fit guaranteed, as there are no wearing parts.

If you so desire, any of our special designs—Vertical or Horizontal Tooled, Wreath Belt or special rock faces, may be substituted for any of the regular designs in Exhibit "A."

Exhibit "A" Outfit is also supplied with Chimney Cores, and you can remove all cores on 12-inch base and make a double flue, or remove half of them and make a half Double Air Space Block and half Chimney Block. To make a chimney block on a 9-inch Mold, remove half the cores, substituting one Chimney Core, use plate H-65 for back, and you will have a half 9-inch Double Air Space Block and half 12-inch Chimney. Every part enumerated above is furnished with regular Exhibit "A" Outfit.

PRACTICAL DEMONSTRATION OF CAPACITY.

Many of our customers have greatly increased our estimates of capacity. Working two men at each Mold, 150, 9x8x24-inch, and 120, 12x8x24-inch perfect MIRACLE Double Air Spaced Blocks have been produced per day; 270 blocks have often been produced every 10 hours by five men, two at each mold, with one helper to mix the concrete. Even this large capacity has been bettered by many Miracle operators. To give you a better idea of how much this means, we will say that one 9x8x24-inch block equals one cubic foot in wall, or 22½ building brick; and weighs 80 pounds. One 12x8x24-inch block equals 1 1-3 cubic foot in wall, or 30 brick, and weighs 100 pounds. Hence, with the MIRACLE Exhibit "A" Machine regularly equipped, will, operated as above, turn out Concrete Building Blocks, perfect in design and construction, equal to 6,975 building brick, or 310 cubic feet of wall. As the standard MIRACLE Block is 8 inches high by 24 inches long, each has outside wall surface of 192 square inches. Therefore, the day's run of 270 Blocks would equal 353 square feet in wall. The standard MIRACLE Block has 28 8-10 per cent. air space, and is approved and admitted by every City Building Ordinance and Inspector in the United States.

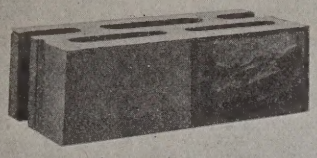
A GREAT SAVING.

A GREAT SAVING—We want you to remember first, last, and all the time, that in buying MIRACLE Exhibit "A" Outfit you cut out the enormous expense of iron pallets that follow the purchase of most all other machines on the market. This expense for iron palettes with other machines runs all the way from $500 to $1,500. With the MIRACLE Outfit all sizes of Blocks are carried away on the same size wooden palette made by nailing together pieces of 2x6 and 2x8, 28 inches in length with two strips 2x2, 13 inches in length. These palettes are light and easy to handle, project far enough out from the block so that the blocks are not damaged in handling while green, and the expense of making them reduces the cost of equipment to the minimum.

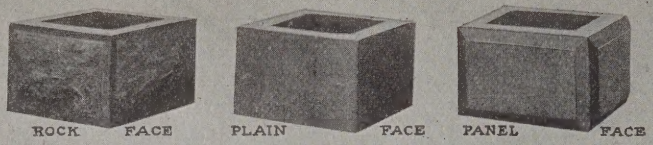
MIRACLE BLOCKS.

Made on Exhibit "A" Outfit—12-inch Base.

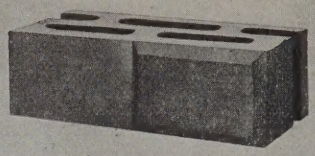
ON THESE TWO PAGES WE SHOW 69 OF THE VARIOUS BLOCKS THAT EXHIBIT "A" WILL MAKE.



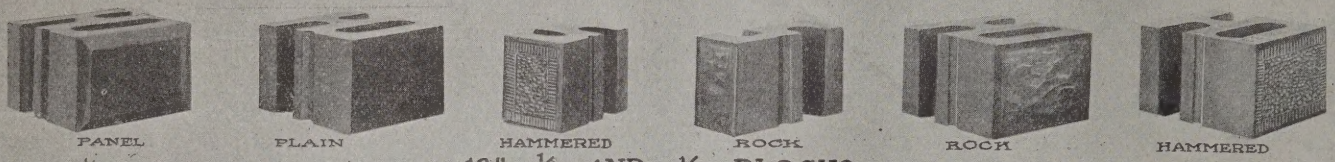
12" BLOCK ½ ROCK AND ½ PLAIN



12" CHIMNEY BLOCKS OR PORCH PIERS



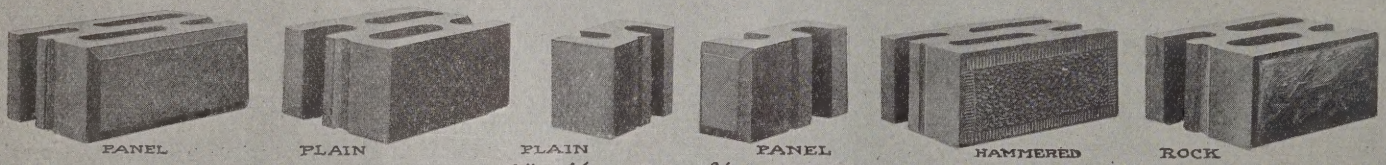
12" BLOCK ½ PANEL AND ½ PLAIN



¼ BLOCKS 6" LONG

12" ½ AND ¼ BLOCKS

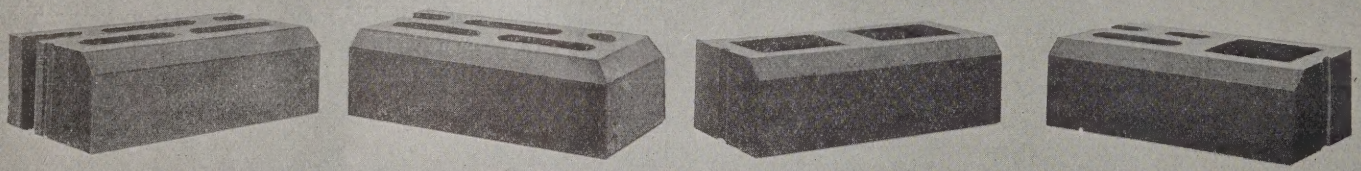
½ BLOCKS 12" LONG



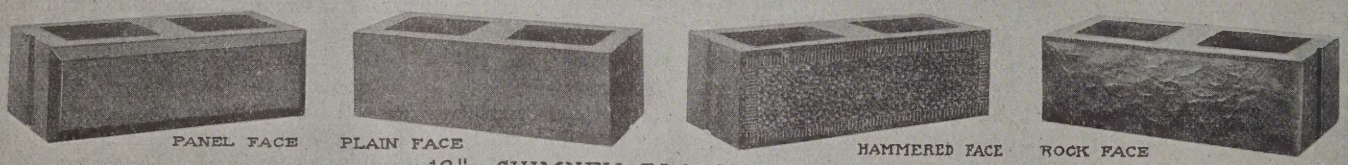
¾ BLOCKS 18" LONG

12" ¼ AND ¾ BLOCKS

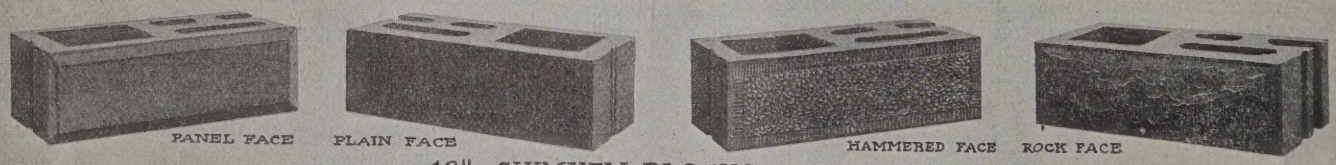
FULL SIZE BLOCKS 24" LONG



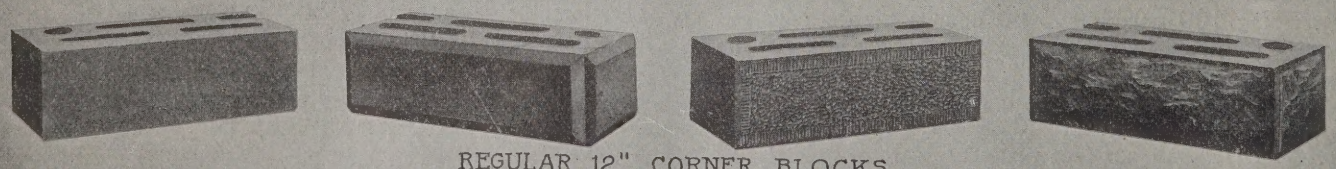
12" WATER TABLE BLOCKS



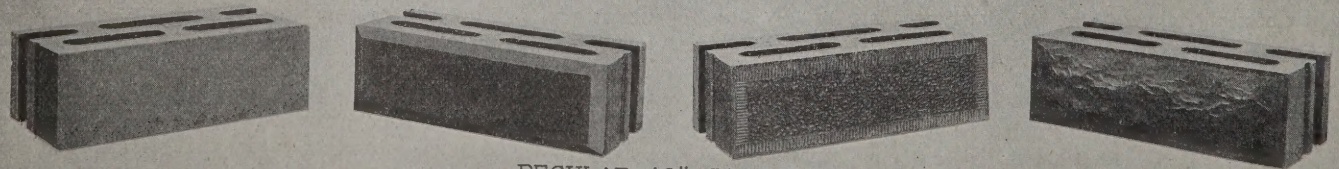
12" CHIMNEY BLOCKS, TWO FLUES



12" CHIMNEY BLOCKS, ONE FLUE



REGULAR 12" CORNER BLOCKS



REGULAR 12" BLOCKS

SEE FOLDED INSERT.

MIRACLE BLOCKS.

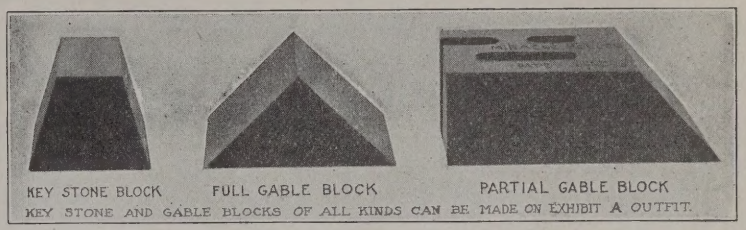
MADE ON AN EXHIBIT "A" OUTFIT.

NOTICE: On these two pages are illustrated 69 of the various faces, styles and sizes of Blocks Exhibit "A" will make. There are many more.

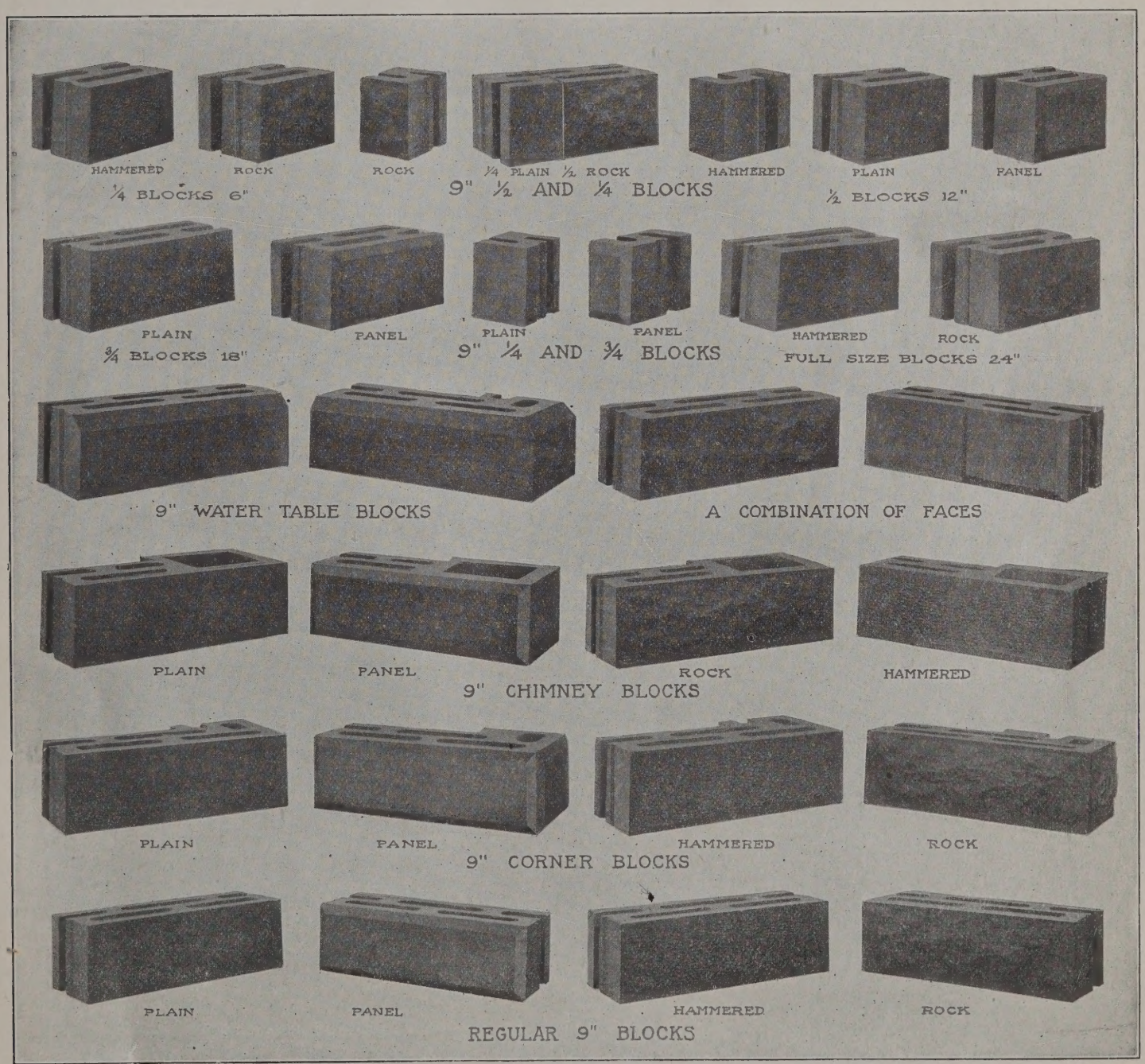
There is no other machine on the market that can produce such a large number of DIFFERENT blocks without an additional investment of hundreds of dollars for additional plates.

A FEW BLOCKS MADE ON A 9-INCH BASE.

LOOK INSIDE



KEY STONE AND GABLE BLOCKS OF ALL KINDS CAN BE MADE ON EXHIBIT A OUTFIT.



SIXTY-NINE OF THE BLOCKS FROM EXHIBIT "A" OUTFIT.

See back of this insert sheet for list of parts for Exhibit "A" Outfit.

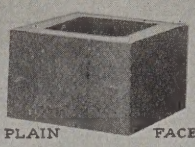
Look inside this insert sheet for Exhibit "A" plates.

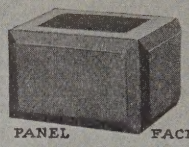
MIRACLE BLOCKS.

Made on Exhibit "A" Outfit—12-inch Base.

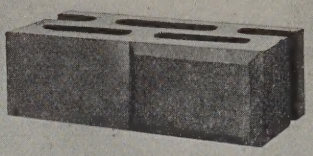
ON THESE TWO PAGES WE SHOW 69 OF THE VARIOUS BLOCKS THAT EXHIBIT "A" WILL MAKE.

12" BLOCK ½ ROCK AND ½ PLAIN

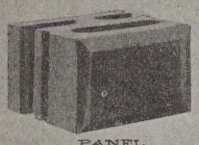


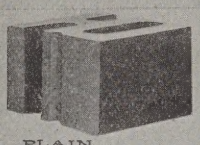


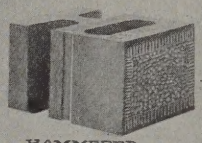
12" CHIMNEY BLOCKS OR PORCH PIERS



12" BLOCK ½ PANEL AND ½ PLAIN



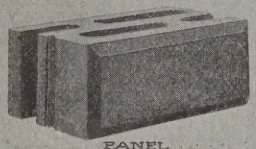


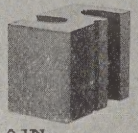


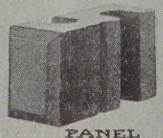
¼ BLOCKS 6" LONG

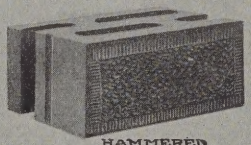
12" ½ AND ¼ BLOCKS

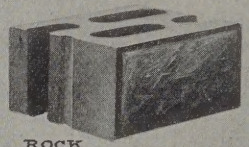
½ BLOCKS 12" LONG







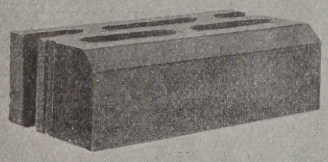


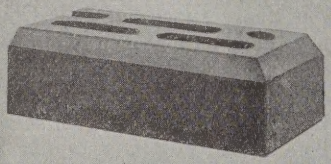


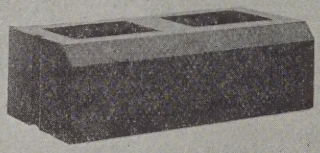
¾ BLOCKS 18" LONG

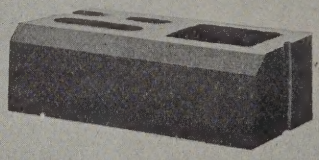
12" ¼ AND ¾ BLOCKS

FULL SIZE BLOCKS 24" LONG

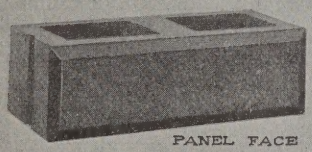


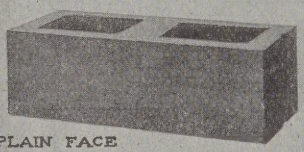


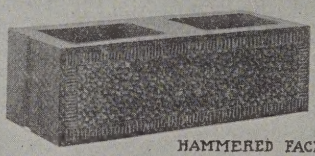


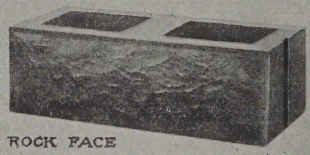


12" WATER TABLE BLOCKS

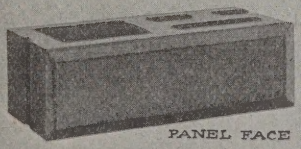


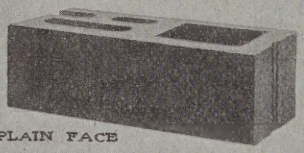


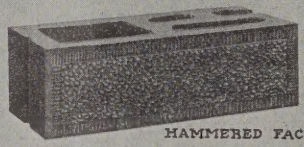


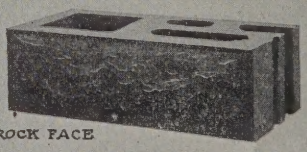


12" CHIMNEY BLOCKS, TWO FLUES

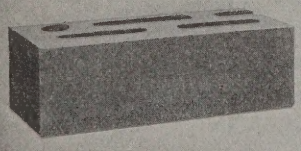


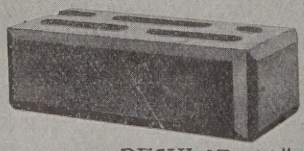


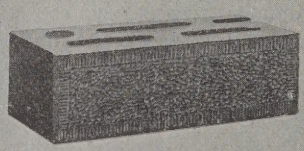


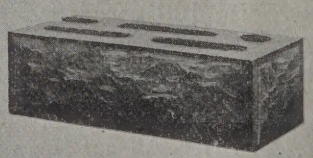


12" CHIMNEY BLOCKS, ONE FLUE

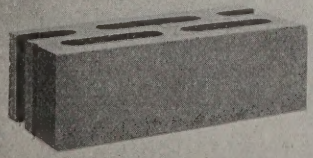


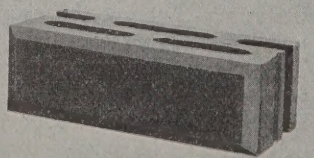


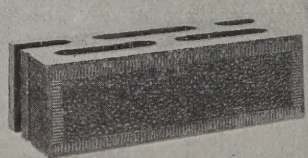


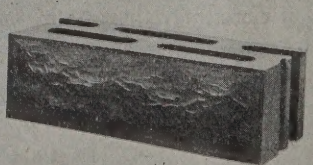


REGULAR 12" CORNER BLOCKS









REGULAR 12" BLOCKS

SEE FOLDED INSERT.

MIRACLE BLOCKS.

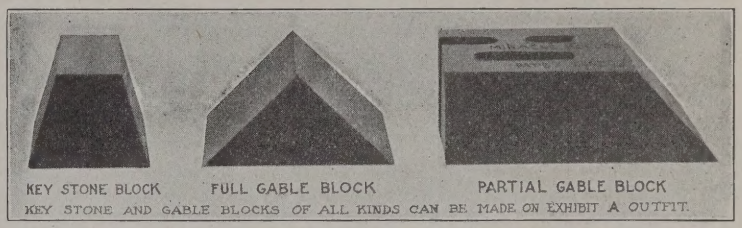
MADE ON AN EXHIBIT "A" OUTFIT.

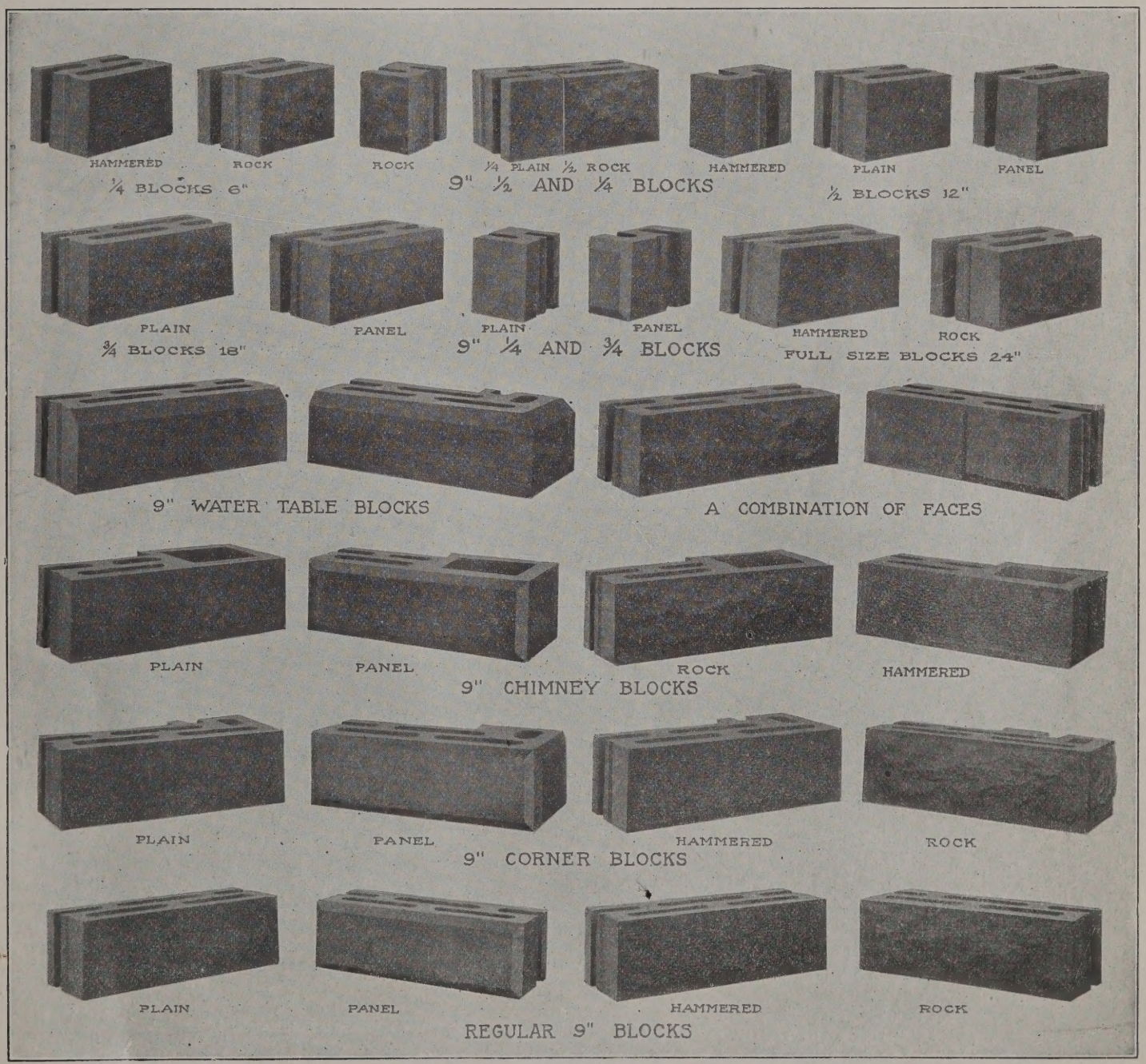
NOTICE: On these two pages are illustrated 69 of the various faces, styles and sizes of Blocks Exhibit "A" will make. There are many more.

There is no other machine on the market that can produce such a large number of DIFFERENT blocks without an additional investment of hundreds of dollars for additional plates.

A FEW BLOCKS MADE ON A 9-INCH BASE.

LOOK INSIDE


KEY STONE BLOCK
FULL GABLE BLOCK
PARTIAL GABLE BLOCK
KEY STONE AND GABLE BLOCKS OF ALL KINDS CAN BE MADE ON EXHIBIT A OUTFIT.

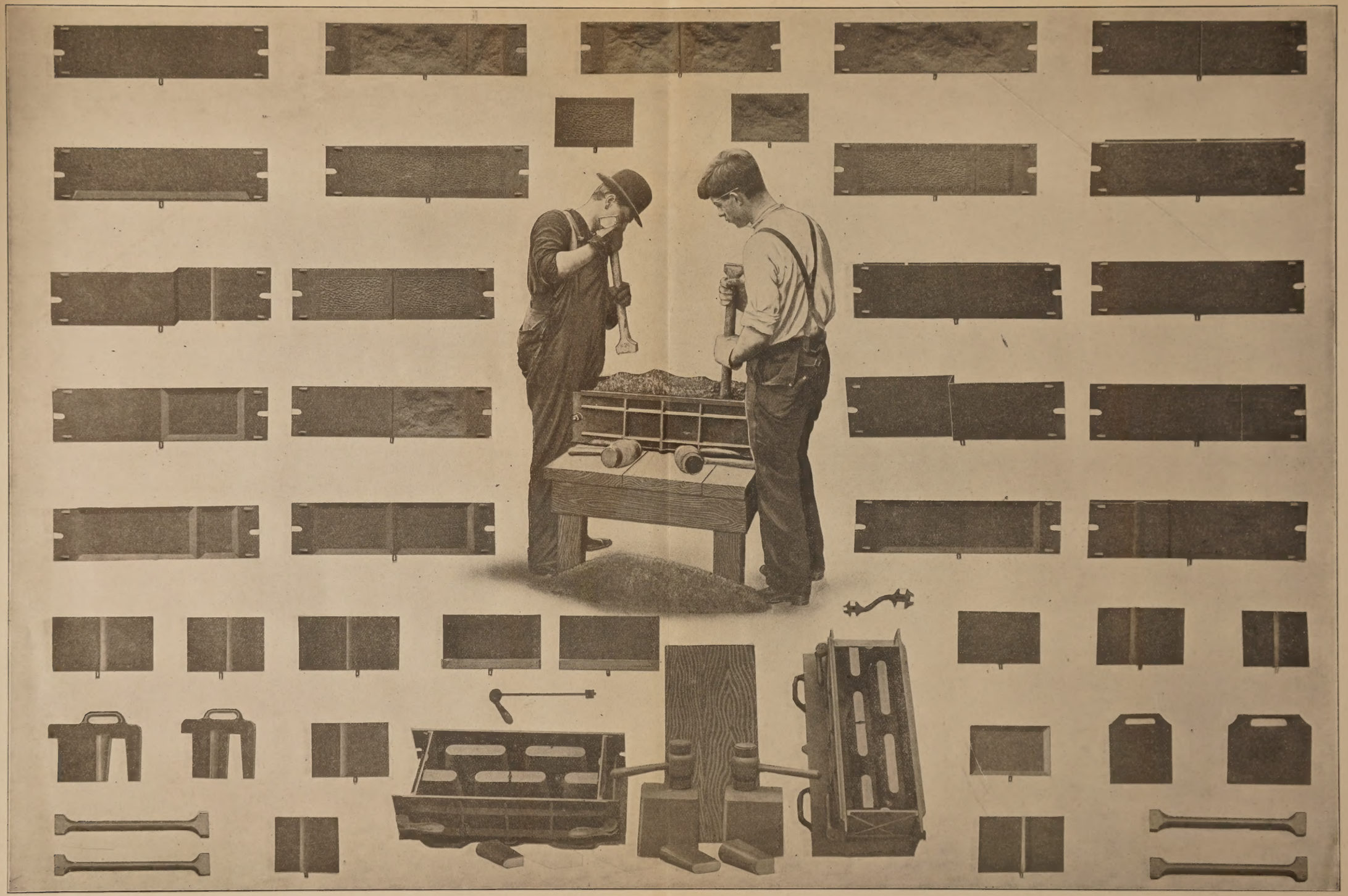


SIXTY-NINE OF THE BLOCKS FROM EXHIBIT "A" OUTFIT.

See back of this insert sheet for list of parts for Exhibit "A" Outfit.

Look inside this insert sheet for Exhibit "A" plates.

The Most Complete. (See Price on Reverse Side of this Sheet.) **EXHIBIT "A"** (See List of Parts on Reverse Side of this Sheet.) The Most Practical.



THE MACHINE THAT MAKES THE BLOCK, THAT GETS THE BUSINESS AND SHOWS THE PROFITS.

LOOK INSIDE

No. 1.

KEY TO PLATES LISTED ON THE OTHER SIDE OF THIS INSERT SHEET.

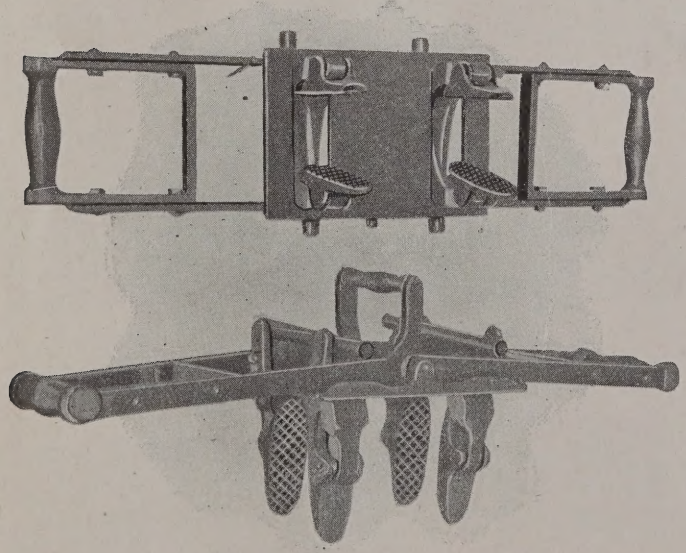
List of Parts for Miracle Hand Tamping Machine for Making 9 and 12-Inch Blocks.

1 12-inch base and cores, complete.
1 9-inch base and cores, complete.
2 chimney cores for either 9-inch or 12-inch.
2 plain face back plates for 9-inch and 12-inch.
1 plain face front plate for 9-inch and 12-inch.
1 plain face front plate for two half blocks.
1 plain angle back plate for 9-inch corner.
1 plain angle back plate for 9-inch chimney.
1 plain end for 9 and 12-inch corner.
1 plain left end with rib for 12-inch.
1 plain right end with rib for 12-inch.
1 plain left end with rib for 9-inch.
1 plain right end with rib for 9-inch.
1 plain face for ¼ and ¾ blocks.
1 medium rock face front plate.
1 medium rock face front plate for 2 half blocks.
1 medium rock face end plate.
1 rock face front plate for ¼ and ¾ blocks.
1 ½ rock and ½ plain face front plate.
1 ½ panel and ½ plain face front plate.
1 panel face front plate.
1 panel face front plate for two half blocks.
1 panel face end plate.
1 panel face front plate for ¼ and ¾ blocks.
1 hammered face front plate.
1 hammered face front plate for two half blocks.
1 hammered face end plate.
1 hammered face front plate for ¼ and ¾ blocks.
1 full division plate for 12-inch.
1 full division plate for 9-inch.
1 ¼ and ¾ division plate for 12-inch.
1 ¼ and ¾ division plate for 9-inch.
4 iron tampers for 9-inch and 12-inch.
3 cam fasteners for 12-inch.
2 cam fasteners for 9-inch.
2 wood mallets.
1 sample wood pallet.
1 plain back for water table.
1 9-inch angle back for water table corner block.
1 9-inch right ribbed end water table.
1 9-inch left ribbed end water table.
1 12-inch right ribbed end water table.
1 12-inch left ribbed end water table.
1 face plate for water table.
1 left end plate for water table.
1 right end plate for water table.
4 cam fasteners.

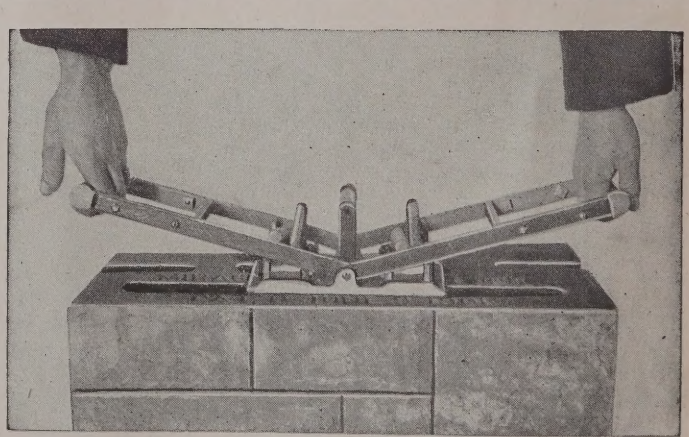
EXHIBIT "A" MACHINE
Complete as enumerated above **$250.00**

MIRACLE BLOCK LIFTER

Price $5 each; 6 for $25.



An 8-inch Base and necessary end plates for making 8-inch Blocks will be substituted without Extra Charge for the 9-inch if desired.



A handy device for handling MIRACLE Blocks in the yard and on the job. No one operating a MIRACLE Mold can afford to be without a supply. It will pay for itself in a short time. No broken corners or pinched fingers. This simple device was gotten up by one of our customers and so arranged that it will pick up either a 9 or 12-inch block at either the top or bottom. You will find it very useful in loading and unloading blocks, also in laying them in the wall. It will do away with having to slide the blocks on the wagon bed, which, we all know, is fatal to corners. On account of this lifter taking hold of the inner web of the block the edges of the blocks are never injured in handling.

PRICE $5.00 EACH. SIX FOR $25.00

USE THIS BLANK WHEN ORDERING BLOCK MACHINE, EXHIBIT "A."

For Miracle Double Air Chamber Block Machine,

EXHIBIT "A."

PARTS ENUMERATED BELOW.

MIRACLE PRESSED STONE CO.,

MINNEAPOLIS, MINN.

Please ship me one Exhibit "A" Machine for $250, f. o. b. Minneapolis, Minn. I enclose herewith (check) (draft) (money order) for $50.00.

Name.....

Date.....190..... Town .....

Ship Via.....R. R. State .....

It is understood upon receipt of this order, you will forward me a license for the right to manufacture Miracle Double Air Space Blocks in

.....

TOWN STATE

I, in turn, agree to sign one form of this license, and return for your files.

Five per cent. discount where the entire amount accompanies the order.

.....

SIGN HERE.

LIST OF PARTS.

1 12-inch base.
1 9-inch base.
6 regular cores for 12-inch.
1 ¼ core for making ¼ and ¾ blocks.
1 filler for divided 9-inch core.
6 regular cores for 9-inch.
2 extra cores for 9-inch corners.
2 chimney cores for either 9 or 12-inch.
1 filler for divided 12-inch core.
13 bolts for cores.
2 plain face back plates for 9 and 12-inch.
1 plain face front plate for 9 and 12-inch.
1 plain face front plate for two half blocks.
1 plain face for ¼ and ¾ blocks.
1 plain angle back plate for 9-inch corner.
1 plain angle back plate for 9-inch chimney
1 plain end for 9 and 12-inch corner.
1 plain left end with rib for 12-inch.
1 plain right end with rib for 12-inch.
1 plain left end with rib for 9-inch.
1 plain right end with rib for 9-inch.
1 med. rock front plate.
1 med. rock face front plate for two half blocks.
1 med. rock face end plate.
1 rock face front plate for ¼ and ¾ blocks.
1 ½ rock and ½ plain face front plate.
1 ½ panel and ½ plain face front plate.
1 panel face front plate.
1 panel face front plate for two half blocks.
1 panel face end plate.
1 panel face front plate for ¼ and ¾ blocks.
1 ham. face front plate.
1 ham. face front plate for two half blocks.
1 ham. face end plate.
1 ham. face front plate for ¼ and ¾ blocks.
1 full division plate for 12-inch.
1 full division plate for 9-inch.
1 ¼ and ¾ division plate for 12-inch.
1 ¼ and ¾ division plate for 9-inch
4 iron tampers for 9 and 12-inch.
3 cam fasteners for 12-inch.
2 cam fasteners for 9-inch.
2 wood mallets.
1 sample wood pallet.
1 plain back for Water Table.
1 9-inch angle back for W. T. Corner Blocks.
1 9-inch right ribbed end W. T.
1 9-inch left ribbed end W. T.
1 12-inch right ribbed end W. T.
1 12-inch left ribbed end W. T
1 face plate for W. T.
1 left end plate for W. T.
1 right end plate for W. T.
4 cam fasteners.

(SEE GUARANTEE BOND ON OTHER SIDE.)

WE HANDLE A COMPLETE LINE.

Miracle Guarantee Bond.

To Whom it May Concern: We, the Miracle Pressed Stone Company, incorporated under the laws of South Dakota, doing business lawfully in the City of Minneapolis, and each member thereof, hereby agree, as a company and as individuals, that if in any case Miracle Machines, Molds or other manufactures are found not to be as represented by us, or will not do the work claimed for them, they can be returned at any time within ninety (90) days of the date of purchase, and if in good condition, less reasonable wear, we will immediately refund the price paid for same. Prosperity for us depends on the success of Miracle customers and the prosperity of the concrete industry, hence our established policy of doing everything in our power to help them succeed.

We further guarantee equally careful and prompt attention to all customers, whether their orders be large or small.

SIGNED: **Miracle Pressed Stone Co.**

By the President, O. W. Miracle

ATTEST:

By the Sec'y and Treas., [illegible]

MIRACLE PRESSED STONE CO. CORPORATE SEAL SIOUX FALLS, S.D.

Minneapolis, July 1st.

USE THIS BLANK WHEN ORDERING BLOCK MACHINE, EXHIBIT "M. A."

For Miracle Special Double Air Chamber Block Machine,

EXHIBIT "M. A."

PARTS ENUMERATED BELOW.

Miracle Pressed Stone Co.,
Minneapolis, Minn.

Please ship me one Special Exhibit "M. A." Machine for $100, f. o. b. Minneapolis, Minn. I enclose herewith (check) (draft) (money order) for $25.00.

Name.....

Date..... 190..... Town .....

Ship Via.....R. R. State .....

It is understood upon receipt of this order, you will forward me a license for the right to manufacture Miracle Double Air Space Blocks in

.....
TOWN STATE

I, in turn, agree to sign one form of this license, and return for your files.

Five per cent. discount where the entire amount accompanies the order.

.....
SIGN HERE.

LIST OF PARTS.

1 9-inch base, complete with all cores.
1 plain face back plate.
1 plain angle back plate for 9-inch corner.
1 plain left end with rib for 9-inch.
1 plain right end with rib for 9-inch.
1 plain angle back plate for chimney block.
1 12-inch plain ribbed end plate.
1 chimney core.
1 medium rock face front plate.
1 medium rock face front plate for two half blocks.
1 medium rock face end plate.
1 medium rock face front plate for 1-4 and 3-4 blocks.
1 full division plate for 9-inch blocks.
1 1-4 and 3-4 division plates for 9-inch.
2 iron tampers for 9-inch.
1 cam fastener for 12-inch.
2 cam fasteners for 9-inch.
2 wood mallets.
1 sample wood pallet.

A machine for making a block 12 inches wide will be substituted for a 9-inch, if preferred.

(SEE GUARANTEE BOND ON OTHER SIDE.)

WE HANDLE A COMPLETE LINE.

Miracle Guarantee Bond.

To Whom it May Concern: We, the Miracle Pressed Stone Company, incorporated under the laws of South Dakota, doing business lawfully in the City of Minneapolis, and each member thereof, hereby agree, as a company and as individuals, that if in any case Miracle Machines, Molds or other manufactures are found not to be as represented by us, or will not do the work claimed for them, they can be returned at any time within ninety (90) days of the date of purchase, and if in good condition, less reasonable wear, we will immediately refund the price paid for same. Prosperity for us depends on the success of Miracle customers and the prosperity of the concrete industry, hence our established policy of doing everything in our power to help them succeed.

We further guarantee equally careful and prompt attention to all customers, whether their orders be large or small.

SIGNED: Miracle Pressed Stone Co.

By the President, O. W. Miracle

ATTEST:

By the Sec'y and Treas., Conrad

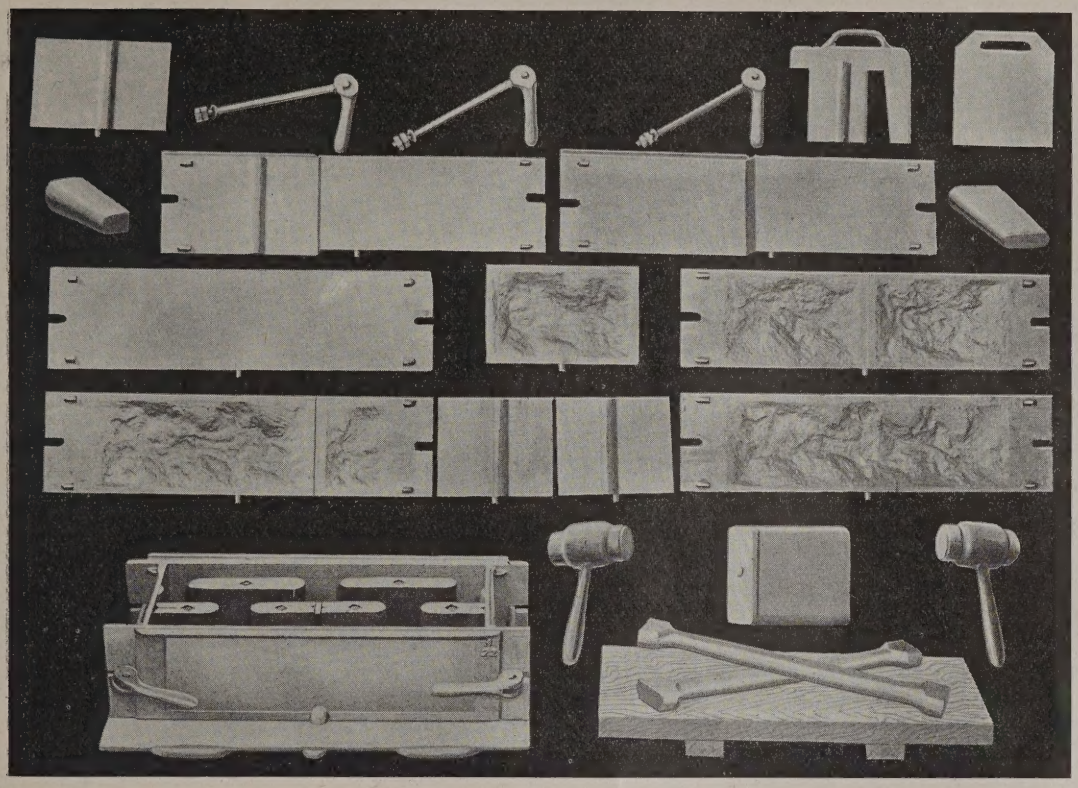
MIRACLE PRESSED STONE CO. CORPORATE SEAL SIOUX FALLS, S.D.

Minneapolis, July 1st.

MIRACLE EXHIBIT "M. A." OUTFIT

FOR MANUFACTURING THE

MIRACLE DOUBLE AIR SPACE BLOCK



THIS OUTFIT COSTS ONLY

$100.00

and is intended for the private use of the man who wishes to build his own home, and also for the man who wishes to begin the business upon small capital.

We very often have calls from people who desire to manufacture the Miracle Double Air Space Block, for a machine that does not cost as much as the Exhibit "A." While it is advisable, if possible, to install the complete machine at the start, one can take up the business on a smaller scale by making a few sizes and designs of stone, then add to the equipment later on out of the profits earned. There are many people that can afford to start on a small scale who are good, substantial, reliable men, that, if given an opportunity, can build up a very profitable business.

For this reason we split up our Exhibit "A." machine and make a price of $100.00 on a partial outfit that will make Rock Face stone 8 inches high, 9 inches wide and 6, 12, 18 and 24 inches long, with corner blocks, porch piers and chimney blocks and agree to furnish, at any time inside of one year, the rest of the Exhibit "A" for an additional $150.00, which makes the complete outfit cost no more than it does to buy it all at once. This outfit, called the "M. A.," consists of the following parts:

PARTS OF "M. A." MACHINE

1 9-inch base, complete with all cores.
1 plain face back plate.
1 plain angle back plate for 9-inch corner.
1 plain left end with rib for 9-inch.
1 plain right end with rib for 9-inch.
1 plain angle back plate for chimney block.
1 12-inch plain ribbed end plate.
1 Chimney core.
1 medium rock face front plate.
1 medium rock face front plate for two half blocks.
1 medium rock face end plate.
1 medium rock face front plate for 1-4 and 3-4 blocks.
1 full division plate for 9-inch blocks.
1 1-4 and 3-4 division plates for 9-inch.
2 iron tampers for 9-inch.
1 cam fastener for 12-inch.
2 cam fasteners for 9-inch.
2 wood mallets.
1 sample wood pallet.

If another style of face plates is preferred to the Rock Face, any style furnished with our Exhibit "A." will be substituted without extra charge. The "M. A." will also be furnished in either 8, 9, or 12 inch widths.

Silo attachments for the "M. A." machine, for one radius, will be furnished for $23.00.

SEE YELLOW ORDER BLANK.

Miracle Blocks Carry Roof of Enormous Weight

Garage in Boston, showing a 60-foot span carried on a wall constructed of Miracle 12-in. blocks.

EXHIBIT "A" OUTFIT

POINTS OF MERIT CONDENSED.

It makes the famous Miracle Double Staggered Air Space Block. It is the only Machine that can.

It is the only machine therefore which brings the business and insures large profits.

It is the most complete and most practical outfit for launching into the Concrete Industry.

It is based upon the simplest principle. Nothing to wear out. Nothing to get out of order.

It produces a larger number of sizes of Blocks and a greater variety of faces without an additional investment of hundreds of dollars for extra parts than any other machine on the market.

It is perfectly true and is guaranteed to produce perfect blocks, true to the square as long as can be used.

It produces sharp, clean cut rock face blocks.

It is so strongly reinforced that the most severe tamping and hard usage will not spring or warp the parts.

It has double capacity, consisting, as it does, of both a 9-inch and a 12-inch outfit.

It is carefully tested in every detail of manufacture.

It is set up and carefully fitted and subjected to most rigid inspection before shipment.

It does NOT call for an enormous investment in iron pallets.

It is made for a wooden pallet large enough so that the block can be safely carried away without extra handles or lifting bars.

It therefore gains in speed and convenience over other machines.

Its capacity is greater than any other machine on the market producing the same size block.

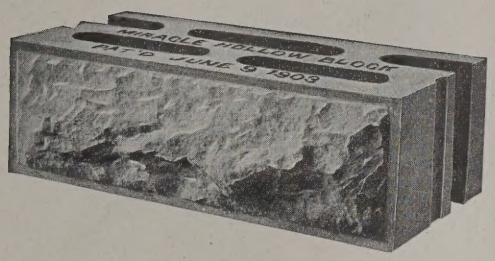
It produces the most convenient size block.

It is in successful operation at more points in United States and Canada than any other two machines combined.

Statistics show conclusively that success is more universal among those using the Miracle Exhibit "A" Outfit than any other class of Cement Block Manufacturers.

A RECAPITULATION

IF YOU WANT TO KNOW THE FACTS, READ EVERY WORD OF THIS ARTICLE. HOW AND WHY IT IS BEST FOR THE INVESTOR.



On a Good Foundation.

The superior merits of the MIRACLE Block stand out plainly, forcibly, unmistakably. It is a foregone conclusion that a Hollow Wall has merit over a solid wall. You readily allow that. But, what is a Hollow Wall? It surely is NOT a wall with a solid line or cross web of material running directly through from front to back, connecting the inner and outer surface every few inches, such as is in single Air Space constructed blocks. A Complete Hollow Wall is one in which these solid lines or webs are backed by Air Spaces; and that result is only reached in the MIRACLE Staggered Air Space Block; so well covered is this point in our patent that any imitation would be an infringement. You will allow that a Hollow Wall and a wall with a hollow in it are two different things—on this point, more than any other, buyers of Air Space Block Machines "fool themselves." As you will note by the picture of Block and wall, every cross web through the MIRACLE Block has an Air Space opposite it. Hence it is a complete Air Space Block. You will see it is impossible to pierce a wall made of MIRACLE Blocks without striking an air space.

The Air Space has a value in itself. First, for greater strength. It is an old-established fact that a hollow iron tube or column is much stronger than a solid one of equal weight. Then, a Hollow Wall is stronger than a solid one of equal weight. The Double Air Space has added value in strengthening the structure, as it furnishes three perpendicular walls which are stronger than two. The staggered arrangement of these Air Spaces staggers the connecting webs of these three perpendicular walls, adding very greatly to the crushing strength and resistance of a wall made of MIRACLE Blocks.

Another value of the Air Space is that it absorbs all moisture and stops the passage of frost that would otherwise penetrate the wall if it were solid at any point. A building built of MIRACLE Staggered Air Space Blocks requires less expense to heat than others. Where the climate is so intensely cold in the winter, this item is one which should be emphasized with the prospective builder, as first cost is not the only cost to be considered in MIRACLE Construction. An added value of the Double Air Space, and one which in itself should give the MIRACLE Block the business, is the fact that a wall made of the MIRACLE Blocks can safely be plastered direct to the stone without expense of Lathing and Furring. All these results can be attained only in the MIRACLE Block.

You can readily see that it is out of the question to reach these essential results in Single Air Space Construction. Then, to stagger the arrangement of the Air Spaces solves the problem, and the MIRACLE Block is the only one that reaches that end. ALL other blocks leave points in the wall that are unprotected, giving a direct path through the wall for frost and moisture, and require added material to reach the same strength as a MIRACLE Wall. "A chain is no stronger than its weakest link." Every link of evidence is solid for the MIRACLE Block. "A structure is no stronger than its weakest point." There are no weak points in the MIRACLE Wall.

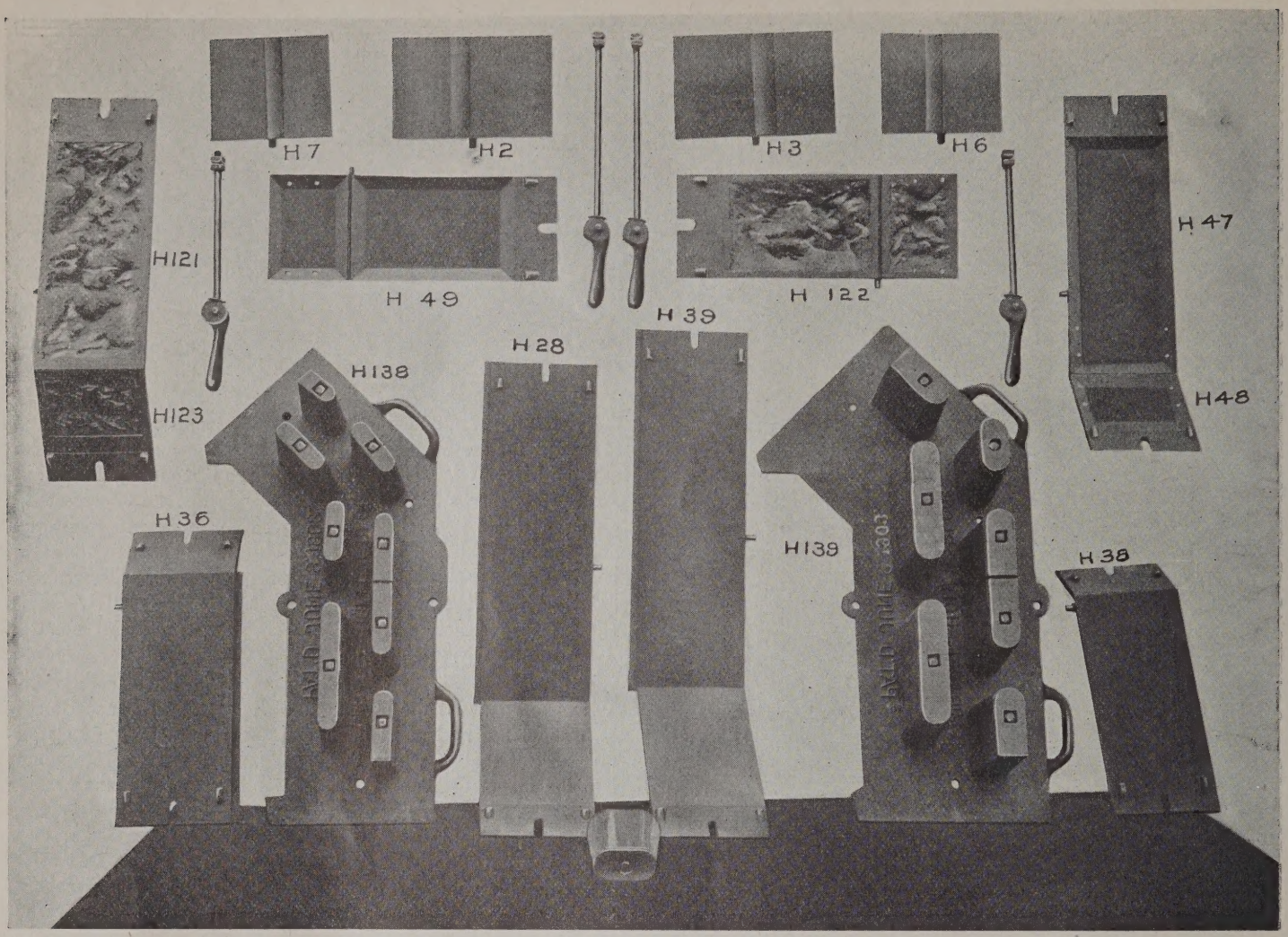
It has been said that "Hell is paved with good intentions." We have no doubt the inventors of all Single Air Space Blocks and Machines had good intentions, too, but their products all fall short of that at which the inventors aim. If you are going into the Concrete Block Business, don't do it under the handicap of the Single Air Space Block. As we have said before, your most valuable asset is the salability of your Block, and unless you have the MIRACLE Block you are short that asset of inestimable value. There are hundreds of machines making Single Air Space Blocks. None but the MIRACLE make the Double Air Space. It is true, Single Air Space Blocks have merit, but their merits are only a small proportion of those of the MIRACLE Block. All that can be said in favor of the Single Air Space Block is only a small part of what can be said in favor of the MIRACLE Block.

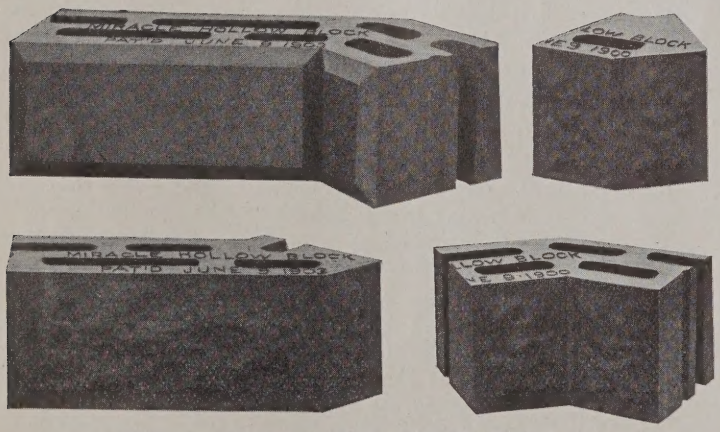
Now, it is not our purpose to point out the weak spots of the Single Air Space Block to overcome competition. We simply don't want a man to buy a Single Air Space Block Machine and then discover after he has bought that he "fooled himself." Whether you buy our machine or not, we will help you to buy with your eyes open. It is our business to sell Block Machines. We want to sell you one, but we want to sell it on its merits.

The United States Engineers selected the MIRACLE Block and Machine on its merits, in competition with some thirty others, for use at Fort Stevens, Oregon. If you want to buy a Hollow Block do not forget that the MIRACLE is the only Hollow Block that is Complete. An incomplete Hollow Block is not a Hollow Block, but an imitation. You can buy a MIRACLE Machine to-day for your locality. There may be others interested in your territory, so do not delay. No matter what block you buy, a competitor with a MIRACLE Machine will get the business, if merits of the products count with the builder.

NOW, if you want to buy a Single Air Space Block Machine we will sell you one, but we won't tell you it is as good as the MIRACLE or answers the same purpose. Our Single Air Space Block Machines carry the idea of MIRACLE simplicity. They are easily operated, cheap in price, make perfect Single Air Space Blocks, and have as great capacity as the fastest on the market. In buying our Single Air Spaced outfit you get more for your money than in buying any other Single Air Space Machine. See index.

EXHIBIT "B."





Miracle Bay Window Blocks, made on Exhibit "B."

OCTAGON OR BAY WINDOW OUTFIT.

It seems that the average American cannot build a house without a Bay Window. So many machine people furnish extra attachments adjustable to the regular Molds to make Blocks for Bay Windows. We believe the only way to make good, true Bay Window Blocks, which will break joints properly, is to have an entirely separate set of Molds. We furnish molds for making exterior and interior angles in both 9-inch and 12-inch Blocks, in any or all faces for either 45-degree or 30-degree angles, which ever you may designate. While we list this outfit complete, if you want only one size or thickness, and only one set of face plates, we will furnish them. Hammered or plain face molds can also be furnished with this outfit. They will be furnished instead of the above faces at the same price, if called for. You will find these Molds will make true and perfect Blocks, and that you will be able to break joints at the proper place.

List of parts for MIRACLE Bay Window or Octagon Hand Tamping Machine for making 45-degree exterior and interior angles. A 30-degree Angle Machine can be substituted at the same price.

1 12-inch iron base and cores, complete.
1 9-inch iron base and cores, complete.
1 rock face front plate, 18-inch.
1 rock face front plate, 6-inch.
1 rock face front plate for one 6-inch and one 12-inch.
1 panel face front plate, 18-inch.
1 panel face front plate, 6-inch.
1 panel face front plate for one 6-inch and one 12-inch.
1 plain back plate for 9-inch interior angle.
1 plain back plate for 12-inch interior angle.
1 plain back plate for 9-inch exterior angle.
1 plain back plate for 12-inch exterior angle.
1 plain left end plate with rib, 12-inch.
1 plain right end plate with rib, 12-inch.
1 plain left end plate with rib, 9-inch.
1 plain right end plate with rib, 9-inch.
2 cam fasteners, 9-inch.
2 cam fasteners, 12-inch.

Shipping weight, boxed, 560 pounds.

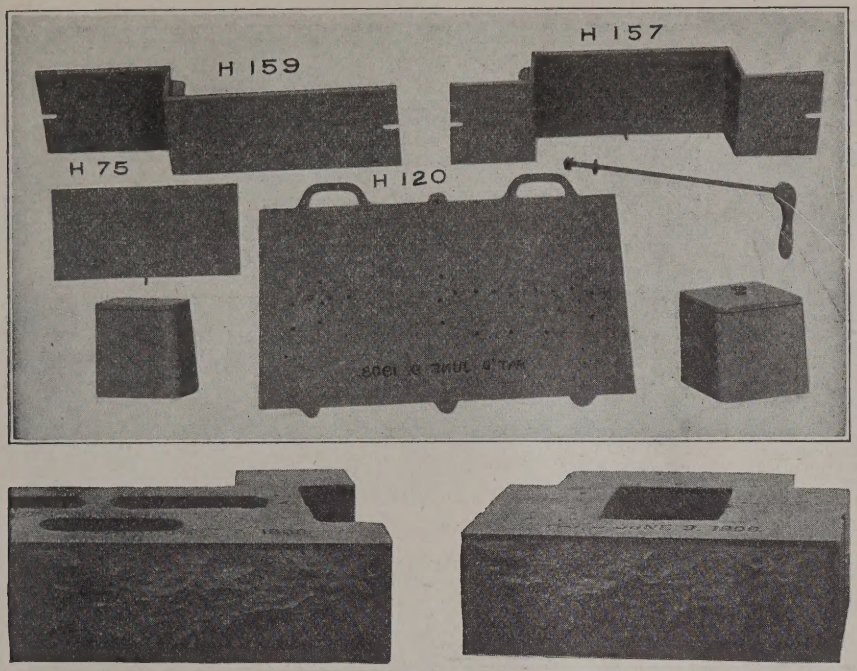
PRICE COMPLETE, $80.00.

A Split Octagon Outfit can also be furnished with one base and cores, either the 9-inch or 12-inch, with one set of face plates, either plain, pannel, rock, or hammered, with end plates. Price, $40.00. Extra face plates in complete sets, $20.00 per set.

We also have the Water Table Attachments for the Exhibit "B" machine. Price complete, $23.00.

EXHIBIT "A" ATTACHMENTS.

CHICAGO CHIMNEY OUTFIT.



Chicago Chimney Outfit, Showing the Two Styles of Chimney Block, with Extra Thick Walls.

Price, Complete.....$32.00

Some city ordinances (Chicago's, for instance) rule that the walls of all chimneys must be at least 4 inches thick. That our customers located in such cities may be enabled to keep within the law, we designed our "Chicago Chimney" outfit. It will be noticed that one opening for flue is in the center of the block and one opening, half size, is in the end of the block. In breaking joints the half openings form a complete flue directly over the opening in the block below it. The parts belonging to this outfit are as follows:

1 base and cores	H-120
1 end plate, 16-inch	H-60
2 end plates, 12-inch	H-61
1 back plate for center flue	H-57
1 back plate for end flue	H-59
Price, complete	$32.00

9-INCH END PLATES.

In making corner blocks for a 9-inch wall, the usual custom is to use a 12-inch return end plate so that the corners will fit. This is necessary, because the 9-inch block is not one-half as wide as it is long, as is the 12-inch block, but, occasionally regular 9-inch end plates are wanted as when making a retaining wall. These end plates are furnished as follows:

H-158 9-inch rock face end plate	$2.50
H-89 9-inch beveled face end plate	2.50
H-151 9-inch hammered face end plate	2.50
H-79 9-inch plain face end plate	2.00

(Note—Plain face 9-inch end plates are furnished with regular 9-inch outfits.)

REVEAL END PLATES.

Reveal end plates are used for making blocks, especially for receiving sash for window weights, etc.

H-163 9-inch Reveal end plates	$2.50
H-165 12-inch Reveal end plates	3.00

An illustration of block made from a Reveal end plate is shown on page 17.

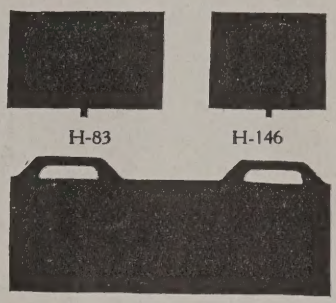
EXTRA PLATES FOR MAKING BLOCKS 10 INCHES HIGH.

For making blocks 10 inches high, one or more additional face plates, one additional back plate, two end plates, and one set of special cores are necessary. We list below, however, the entire outfit for making blocks 10 inches high.

Special cores, 10 inches high, complete set		$16 00
Plain face plate	E-2	6.00
Plain face for ½ blocks	E-3	7.00
Plain face for ¼ and ¾ blocks	E-4	7.00
Plain face end plate	E-10	3 00
Hammered face plate	E-7	8.00
Hammered face for ½ block	E-8	9.00
Hammered face for ¼ and ¾ blocks	E-20	9.00
Hammered face end plate	E-13	4 00
Rock face plate	E-21	8.00
Rock face for ½ block	E-22	9.00
Rock face for ¼ and ¾ blocks	E-23	4 00
Rock face end plate	E-24	4.00
Panel face plate	E-25	8.00
Panel face for ½ block	E-26	$ 9 00
Panel face for ¼ and ¾ blocks	E-27	9.00
Panel face end plate	E-28	4.00
Right ribbed 12-inch end plate	E-30	3 00
Left ribbed 12-inch end plate	E-31	3.00
Right ribbed 9-inch end plate	E-32	3.00
Left ribbed 9-inch end plate	E-33	3 00
Plain back plate	E-35	7.00
Return corner back for 9-inch block	E-36	8 00
Chimney back plate	E-37	8 00
12-inch full division plate	E-38	2.00
9-inch full division plate	E-39	1.75
12-inch ¼ and ¾ division plate	E-40	2.25
9-inch ¼ and ¾ division plate	E-41	2.00

VENEER AND PARTITION BLOCKS.

Price, Complete, $11.50.



H-84

PLATES FOR MAKING VENEER AND PARTITION BLOCKS.

Two plates, each $2.50	H-83	$5.00
One plate	H-84	2.50
Two plates, each $2.00	H-146	4.00
Price, complete		$11.50

To make a 6-inch Veneer or Partition Block remove the cores on the 12-inch base and put on the 9-inch Block cores. Use for end plates two of H-83. These end plates are the same as regular plain end plates except they are slotted in the center to admit the lengthwise division plate H-84. After thoroughly tamping the block, remove the division plate and turn the block over the same as usual. In making a 4½-inch Partition Block, we recommend that you remove all cores from 9-inch base. Use two of 9-inch slotted end plates, No. H-146, and one lengthwise division plate, No. H-84.

H-83, slotted end plate for 12-inch mold makes Veneer or Partition Block 6 inches thick.

H-84, lengthwise division plate for Veneer or Partition Blocks.

H-146, slotted end plate for 9-inch mold makes Veneer or Partition Blocks 4½ inches thick.

SPECIAL SIZE WALLS.

A variety of walls getting away from the so-called monotonous is sometimes wanted. For this reason we made our special molds. Some want to build walls with the upper half of the regular 8-inch blocks and the lower half of higher, bigger stones. It was, therefore, necessary for us to make molds for building walls 8, 10, 14 and 16 inches thick, and for making blocks 10 and 12 inches high.

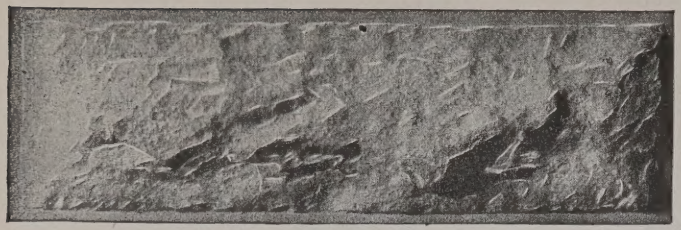
FOR MAKING WALLS OF EVERY THICKNESS.

Additional bases and both right and left ribbed end plates are required, unless the regular bases are ordered and drilled to suit, in which case the end plates only are required.

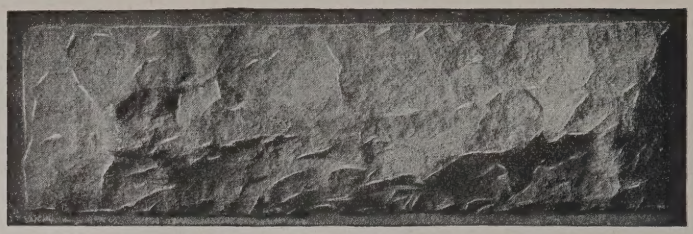
Base for 8-inch block without cores	H-45	$9.00
Base for 10-inch block without cores	H-46	9 00
Base for 14-inch block without cores	H-120	14.00
Base for 16-inch block without cores	H-120	14.00
Regular cores 8 inches high for above 8-inch and 10-inch bases, per set		11.00
Regular extra large cores 8 inches high for above 14 and 16-inch bases, per set		16 00
Right ribbed end plate, 8 inches wide	H-148	2.00
Left ribbed end plate, 8 inches wide	H-149	2 00
Right ribbed end plate, 10 inches wide	H-80	2.25
Left ribbed end plate, 10 inches wide	H-80X	2 25
Right ribbed end plate, 14 inches wide	H-152	2 75
Left ribbed end plate, 14 inches wide	H-153	2.75
Right ribbed end plate, 16 inches wide	H-61	3.00
Left ribbed end plate, 16 inches wide	H-60	3.00
Angle back for 8-inch return corner	H-147	6 00
Angle back for 8-inch chimney block	H-150	6.00
Angle back for 8-inch water table	H-170	6 00
Right ribbed end plate W. T., 8 inches	H-171	3.00
Left ribbed end plate W. T., 8 inches	H-172	3.00
Division plate, ¼ and ¾, 8 inches	H-183	1.25
Angle back for 10-inch return corner	H-81	6.00
Angle back for 10-inch chimney block	H-166	6.00
Angle back for 10-inch W. T	H-167	6 00
Right ribbed end plate W. T., 10 inches	H-168	3.25
Left ribbed end plate W. T., 10 inches	H-169	3.25
Division plate, ¼ and ¾, 10 inches	H-238	1.25
Angle back for 14-inch return corner	H-15X	6.00
Angle back for 14-inch W. T	H-186	6.00
Right ribbed end plate for W. T., 14 inches	H-187	3.50
Left ribbed end plate for W. T., 14 inches	H-188	3.50
Division plate, ¼ and ¾, 14 inches	H-239	1.50
Angle back for 16-inch W. T	H-189	6.00
Right ribbed end for 16-inch W. T	H-190	4.00
Left ribbed end for 16-inch W. T	H-191	4.00
Division plate, ¼ and ¾, 16 inches	H-240	1.75

EXHIBIT "A" ATTACHMENTS—Continued.

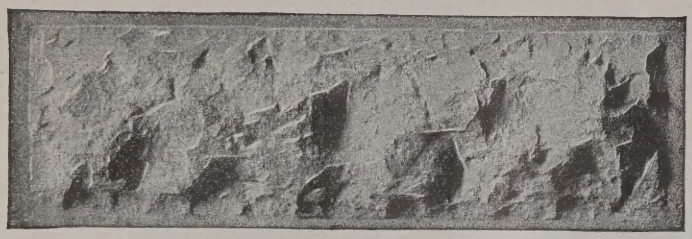
SPECIAL ROCK FACES. PRICE EACH, $7.00.



Face Plate H-193



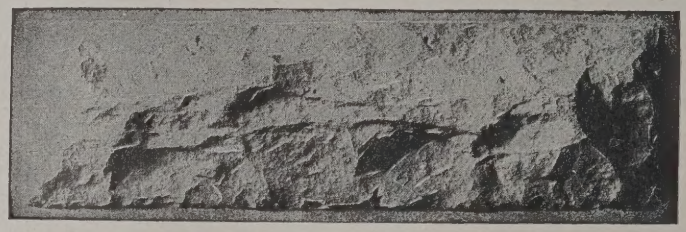
Face Plate H-195



Face Plate H-194

Face Plate H-192

Face Plate H-197

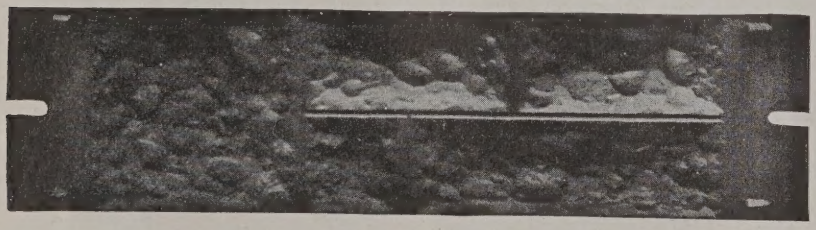


Face Plate H-196

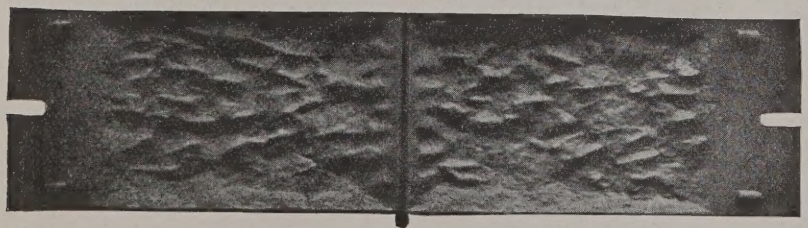
A combination of several of these new Rock Faces placed indiscriminately in the wall makes a building of the most STRIKING and PLEASING appearance.

The Miracle Special Rock Faces were designed to give variety to cement concrete construction. The best results can be obtained by placing, indiscriminately in the wall, stones of five or six different rock face designs. We advise all Miracle operators to invest a few extra dollars in several additional rock face plates, and mix them up in making stones. Let the blocks get well mixed up in the yard, and when they go into a building a wall equal, if not superior, in appearance and durability to any wall of the best cut stone is the result.

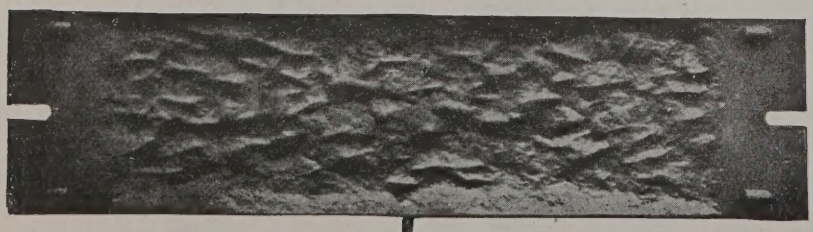
These face plates are made at great expense and care. The sharpest and hardest natural stone is chipped, and patterns very carefully taken, producing perfect natural faces with sharp, clean cut lines. Plates similar to each of above designs furnished for making quarter and three-quarter lengths, also half-lengths, for $7.50 each. End plates, $3.50 each.



H-140



H-94

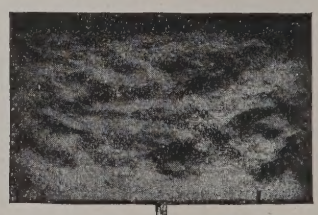


H-96

BROKEN ASHLER FACE PLATES.

These plates are made to give the impression of five distinct rocks, each being separated by false pointing, and do away with objections sometimes offered to Concrete Blocks—the monotonous effect made by using one face in the wall.

See illustration.



H-95

We also have a series of rock face plates made without any marginal edge, which will work in very nicely with the broken ashler face. See Block Exhibits Nos. 1 and 3 on pages 38 and 39. We give list of plates and numbers below, any one of which may be bought separately if desired:

Shipping weight, 118 pounds.

Broken Ashler	H-140	$8.00
Rock Face without margin front	H-94	6.00
Rock Face without margin end	H-95	3.00
Rock Face without margin, one-half block	H-96	7.00
Broken Ashler with recess for pointing	H-177	8.00
Price complete, first four plates only		$24.00

EXHIBIT "A" ATTACHMENTS—Continued.

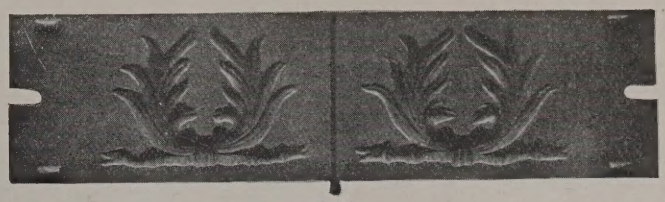
WREATH BELT COURSE OUTFIT.

This course gives a very pleasing effect and will beautify any building. See pictures of Block Exhibits Nos. 1, 3 and 4 on pages 38 and 39.

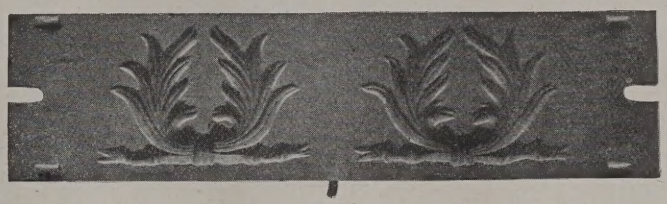
This effect in a cut stone would cost in the neighborhood of $2.00 a foot, and then would not be nearly as perfect as the MIRACLE product.

To make our Wreath Belt Course the following plates are necessary:

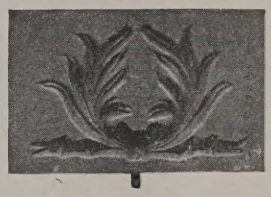
Frieze front plate	H-70	$6.00
Frieze front plate, one-half block	H-71	7.00
Frieze end plate	H-72	3.00
Price complete		$16.00



H-71.



H-70.



H-72.

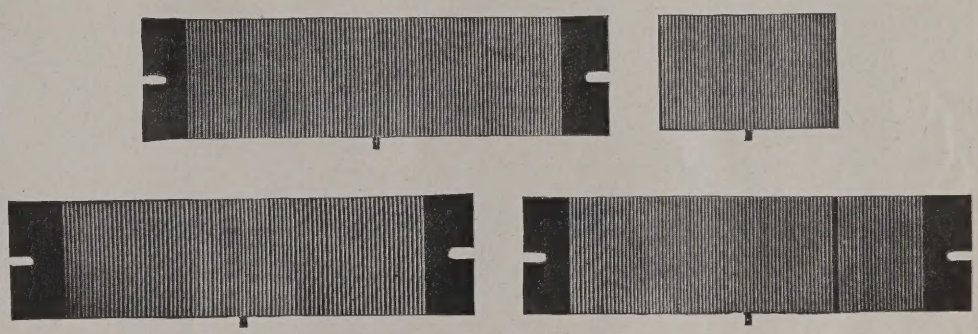
Wreath Belt Course Outfit.

VERTICAL AND HORIZONTAL TOOLED FACES.

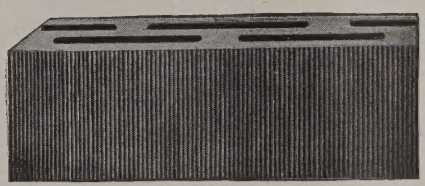
To give further variety in style of faces, we have designed our Vertical and Horizontal Tooled Faces. They are proving very popular, and blocks produced with these plates give a building a thoroughly modern appearance.

The plates necessary are as follows:

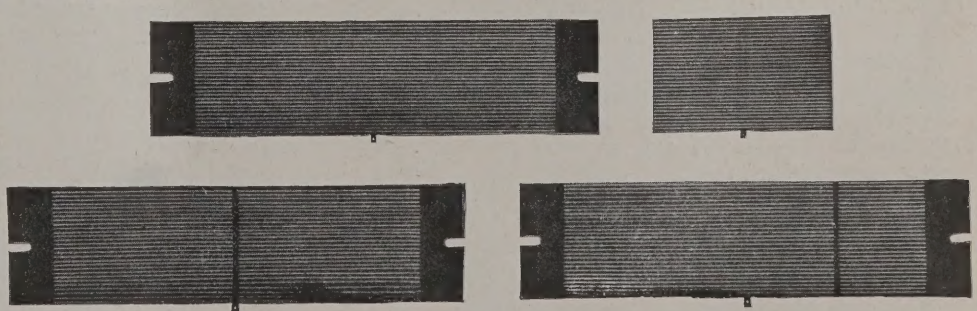
Vertical tooled front plate	H-101	$6.50
Vertical tooled front plate, ½ blocks	H-102	7.50
Vertical tooled front plate, ¼ and ¾ blocks	H-103	7.50
Vertical tooled end plates, 12-inch blocks	H-104	3.25
Horizontal tooled front plate	H-97	6.50
Horizontal tooled front plate, ½ blocks	H-98	7.50
Horizontal tooled front plate, ¼ and ¾ blocks	H-99	7.50
Horizontal tooled end plate, 12-inch blocks	H-100	3.25



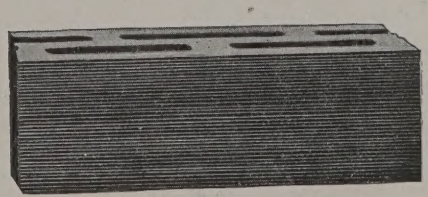
Vertical Tooled Outfit.



A Vertical Tooled Block.



Horizontal Tooled Outfit.



A Horizontal Tooled Block.

EXHIBIT "A" ATTACHMENTS—Continued.

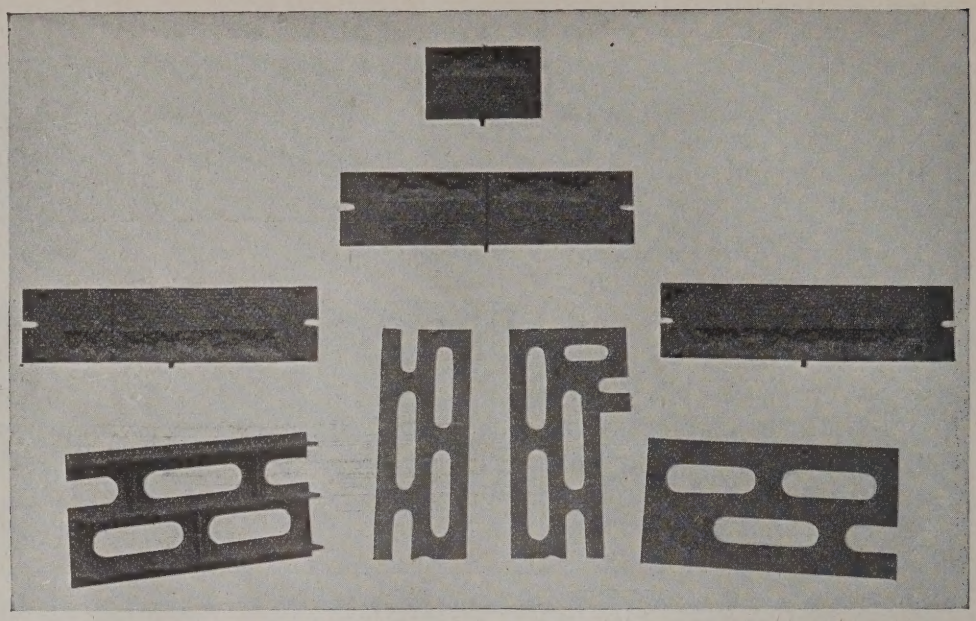
HALF-HEIGHT BLOCKS.

Exhibit "I."

The most attractive feature of half-height blocks is that it breaks the monotony of regular, equal-size blocks.

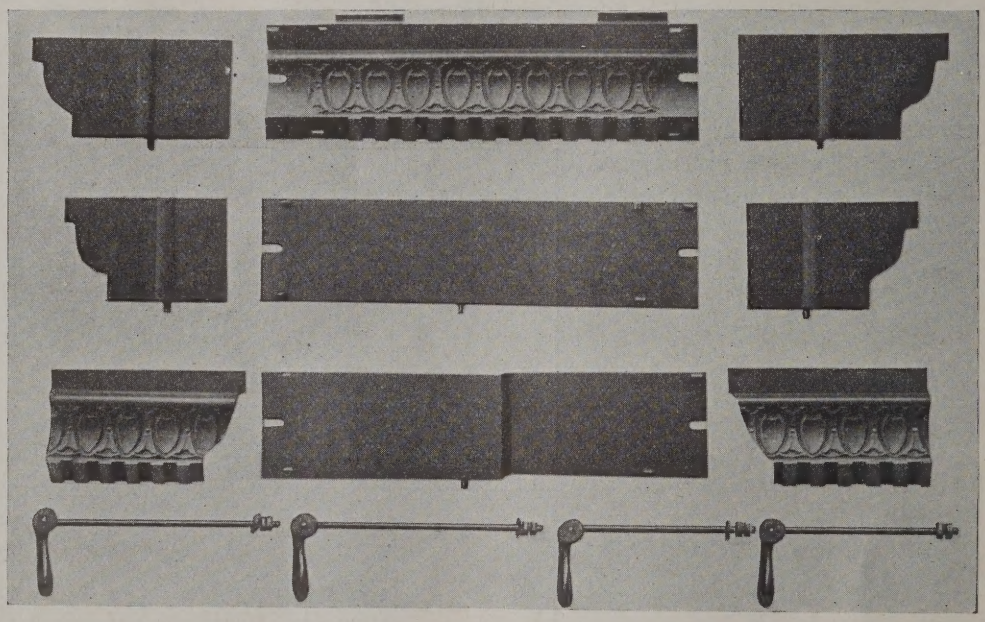
In making half-height or 3¾-inch blocks, the regular bases and backs are used, fillers being dropped over the cores. The special face plate, which is half rock and half hammered, is used. You can make either face you desire by changing the dowel pin; that is, if you desire to make a 3¾-inch rock face, the dowel pin should be put on the hammered face side, and to make the hammered face, reverse the dowel. The following plates are necessary to make the outfit complete:

Filler for 12-inch straight block	H-85	$3.50
Filler for 12-inch corner block	H-86	3.50
Filler for 9-inch straight block	H-87	3.50
Filler for 9-inch corner block	H-88	3.50
Rock and hammered front face for 4-inch	H-90	6.00
Rock and hammered front face for 4-inch half	H-91	7.00
Rock and hammered face for 4-in. end	H-92	3.00
Rock and hammered front face for ¼ and ¾ blocks, 4-inch	H-93	7.00
Price, complete		$37.00



Outfit for Making Half-Height Blocks.

The fillers shown above can be used with the regular plain face plates to make half-height blocks with smooth face.



Egg and Dart Cornice Outfit.

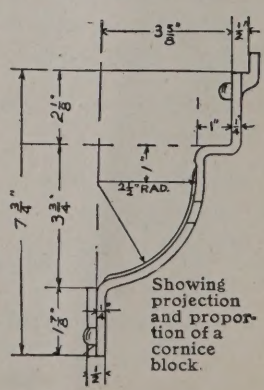
EGG AND DART CORNICE OUTFIT.

Cornice Blocks, both 9 and 12 inches wide, also right and left hand Corner Blocks, can be made with these attachments. This makes a very pretty cornice effect, the block overhanging 3⅝ inches, giving a finished appearance to any building. See block exhibits Nos. 1 and 4, pages 38 and 39.

This outfit, having no cores, can be used by anyone making concrete blocks. It is not necessarily an outfit exclusively for the Miracle block maker.

Egg and Dart Cornice Outfit consists of the following plates:

One cornice plate, front	H-130	$8.00
One right end cornice plate	H-131	4.00
One left end cornice plate	H-131X	4.00
One cornice back plate	H-132	6.00
One cornice plate, left ribbed, 12-inch end	H-133	3.00
One cornice plate, right ribbed, 12-inch end	H-134	3.00
One cornice piece, left ribbed, 9-inch end	H-135	2.50
One cornice plate, right ribbed, 9-inch end	H-136	2.50
One cornice plate, angle back for 9-inch block	H-137	7.00
Four special cam fasteners, each 50 cents		2.00
Price, complete		$42.00



Showing projection and proportion of a cornice block.

Two Typical Buildings Showing Fancy Blocks, Half-Height Blocks, Wreath Belt Course, and Egg-and-Dart Cornice.

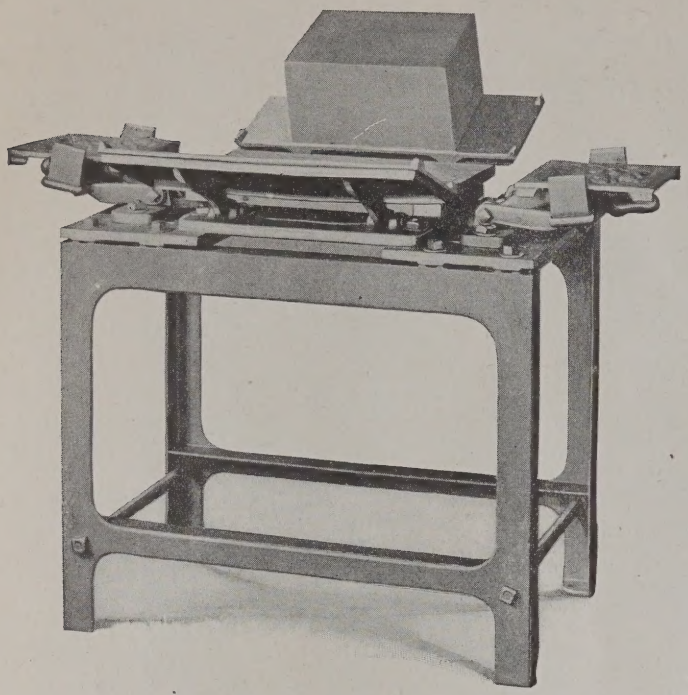
A Modern Flat Building, Allegheny, Pa.

The artistic effect secured in building, which relieves the monotony of one style of block, by the use of the special molds shown on the opposite page, is well illustrated by the two buildings on this page. In view of the fact that it takes no more material and practically no more labor to secure a pleasing artistic effect, the wisdom of having these molds in your equipment must be apparent. The difference between a handsome and artistic effect and an ugly building is a mere trifle in cost, but a big item in its desirability and money value.

Bank Building, Lankin, N. D.

MIRACLE TWO-PIECE CHIMNEY, PORCH PIER AND VENEER OUTFIT.

Price $30 to $32 According to Size.



Ready to Remove the Product.

There is a large demand for a concrete chimney block that can be very easily laid and which will entirely do away with the danger of the chimney cracking such as a great many brick chimneys will do.

To meet this demand we have constructed the Miracle Two-Piece Chimney, Porch Pier, and Veneer Outfit, illustrations of which are found on this page.

The U-shaped block is a very handy one to lay in a chimney or in a porch pier; and by breaking the joints every other course, a chimney is had in which there is room for contraction and expansion, which does away entirely with cracking. This also makes a very neat piece of work; in fact, a chimney or porch pier which looks much better than the old style one-piece chimney or porch pier block.

Every size of mold is provided with a filler, with which a veneer block as well as a return corner veneer block can be made. This is one great feature, because there are very few first class veneer block machines on the market.

The Miracle Two-Piece Chimney and Porch Pier outfit in its various sizes will make chimneys and porch piers 12x12, 14x14, 16x16, 18x18 and 20x20 in., both plain and rock face, and also veneer blocks in 12,14,16,18 and 20 inch lengths. We give below on this page the different combinations of plates furnished at the prices quoted.

CONSTRUCTION AND OPERATION.

The Miracle Two-Piece Chimney, Porch Pier and Veneer block machine is made of substantial gray iron castings throughout, with the exception of the half core which is made of wood. A wooden pallet is placed on top of the stand and the end and side plates are fixed in position with the help of the U clamps. The concrete is then tamped into the mold and struck off level across the top. The U clamps are turned in a quarter circle and the side and end-plates are turned in a quarter circle to free the block preparatory to carrying it away.

The end-and side-plates are quickly interchangeable for making different sizes of chimney or porch pier blocks; and the special filler for making veneer blocks is interchangeable with the regular filler for making chimney blocks.

PRICES OF TWO-PIECE CHIMNEY BLOCK MACHINES

1 Stand consisting of
Frame
Bedplate
Side hinge
End " $15.00
Clamp
" Jaw
Spreader
" rod

Any set of plates either 12-14-16-18 or 20-inches are adjustable to this stand.

12" front plate, rock face
12" " " plain "
12" back " $15.00
6" end " plain " (two)
6" " " rock " (two)
Core 4"x8"

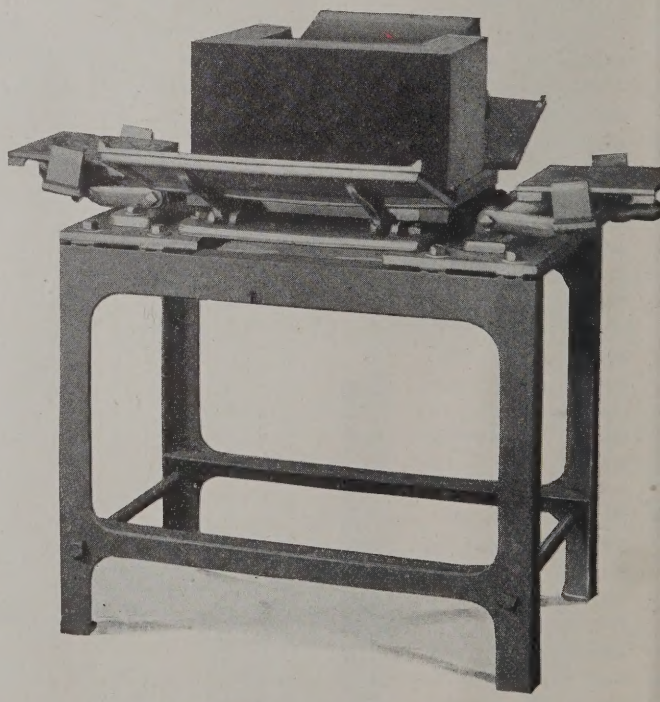
14" front plate, rock face
14" " " plain $15.50
14" back "
7" end " plain " (two)
7" " " rock (two)
Core 5"x10"

16" front plate, rock face
16" " " plain " $16.00
16" back "
8" end " plain " (two)
8" " " rock " (two)
Core 6"x12"

18" front plate, rock face
18" " " plain " $16.50
18" back "
9" end " plain " (two)
9" " " rock " (two)
Core 7"x14"

20" front plate, rock face
20" " " plain " $17.00
20" back "
10" end " plain " (two)
10" " " rock " (two)
Core 7"x14"

Any special size of core furnished with any size of plates.



Showing Detail of Construction.

FIVE SIZES COMPLETE

One Stand with Equipment for 12, 14, 16, 18 and 20 in. U Blocks, - $75.00

EXHIBIT "C," "D" and "E."

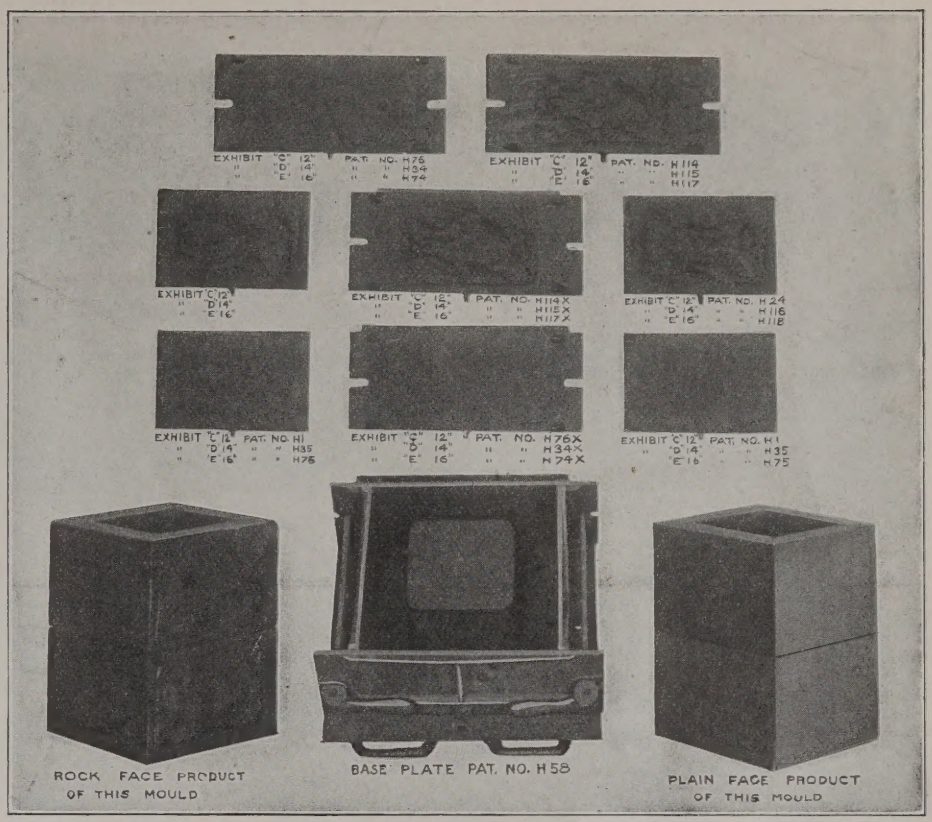
FOR MAKING PORCH PIER BLOCKS

Exhibit "C," 12x12-inch. Exhibit "D," 14x14-inch. Exhibit "E," 16x16-inch.

In presenting these outfits, which are exactly alike except in size, we merely carry out our idea of a separate mold for every form of block.

These blocks make a good, single-flue chimney, the inside measurement of which is 7x7, the same being used by all sizes, so one can make any thickness of wall. For instance, if your building laws require full four inches of concrete around the flue, we recommend our Exhibit "E," which forms a wall of four inches.

They also make an ideal Porch Pier, Column or Foundation Pier, in rock, plain, beveled or hammered, or you can alternate them, which gives a very pleasing effect.



Exhibits "C," "D" and "E." The only difference in these exhibits being the size of the plates.

EXHIBIT "C."

List of Parts for Miracle Porch, Pier and Chimney Block Hand Tamp Machine, 12-inch.

PRICE, COMPLETE, $30.00.

1 base.
1 large core.
1 Plain face front plate, 12-inch.
1 plain face back plate, 12-inch.
2 cam fasteners, 12-inch.
2 plain face end plates, 12-inch.
1 rock face front plate, 12-inch.
1 rock face back plate, 12-inch.
2 rock face end plates, 12-inch.

EXHIBIT "D."

List of Parts for Miracle Porch Column, Porch Pier and Chimney Block, Hand Tamp Machine, 14-inch.

PRICE, COMPLETE, $35.00.

1 base.
1 large core.
1 plain face front plate, 14-inch.
1 plain face back plate, 14-inch.
2 plain face end plates, 14-inch.
1 rock face front plate, 14-inch.
1 rock face back plate, 14-inch.
2 rock face end plates, 14-inch.
2 cam fasteners, 14-inch.

EXHIBIT "E."

List of Parts for Miracle Porch Column, Porch, Pier and Chimney Block, Hand Tamp Machine, 16-inch.

PRICE, COMPLETE, $40.00.

1 base.
1 large core.
1 plain face front plate, 16-inch.
1 plain face back plate, 16-inch.
2 plain face end plates, 16-inch.
1 rock face front plate, 16-inch.
1 rock face back plate, 16-inch.
2 rock face end plates, 16-inch.
2 cam fasteners, 16-inch.

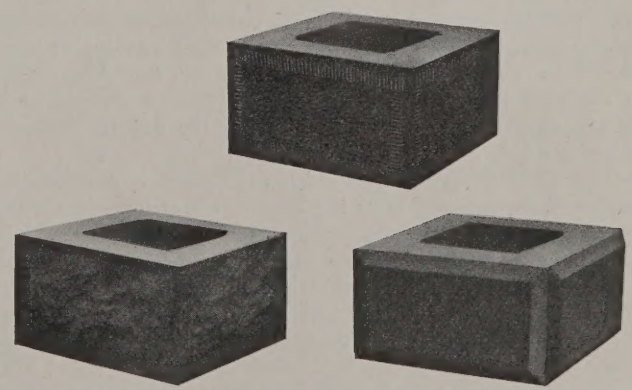
NOTICE.

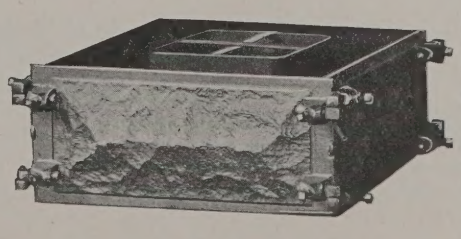
Hammered or Panel face plates may be had in place of above plain or rock face plates or may be purchased in addition. See list of parts below.

EXTRA FACES FOR PORCH COLUMNS.

Either of the following faces (Panel or Hammered) for the porch pier and chimney outfits may be substituted for the rock face as shown, or either face may be purchased as extra plates if desired, at the following prices:—

4 panel faces (2 front and 2 end plates) 12x12-inch $14.00
4 panel faces (2 front and 2 end plates) 14x14-inch 16.00
4 panel faces (2 front and 2 end plates) 16x16-inch 20.00
4 hammered faces (2 front, 2 end plates) 12x12-inch 14.00
4 hammered faces (2 front, 2 end plates) 14x14-inch 16.00
4 hammered faces (2 front, 2 end plates) 16x16-inch 20.00



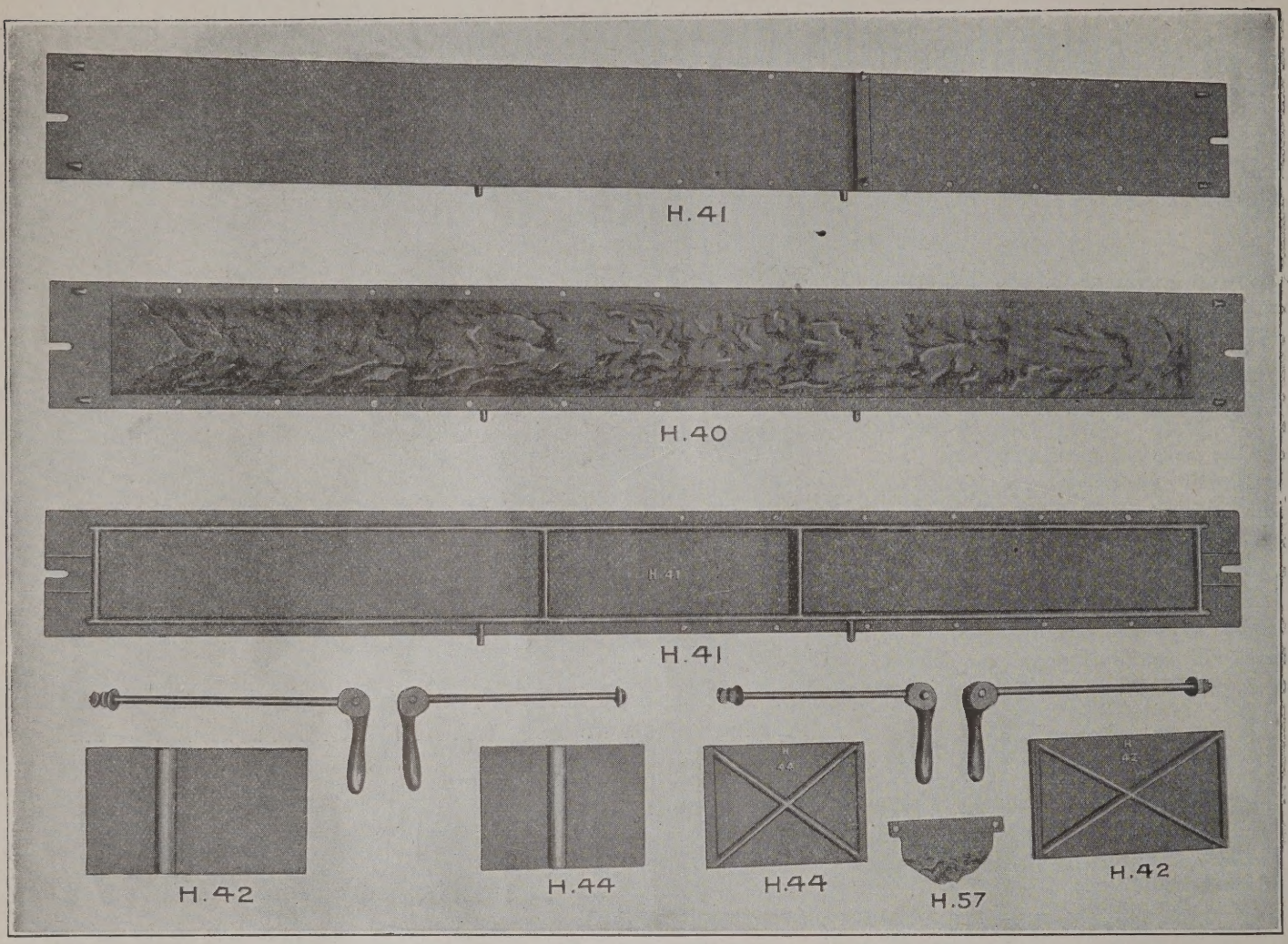


Size of this rock face mold, 16"x16"-8" high.

Price $10.00

EXHIBIT "G."

SILL, CAP AND LINTEL MOLDS.



ADJUSTABLE MOLD, NO BASE REQUIRED. PRICE, $45.00.

The MIRACLE Adjustable Sill, Cap and Lintel Molds, known as Exhibit "G," consist of a pair of plain plates, 6 feet in length, and beautifully designed rock face plate, 6 feet in length, with the necessary end plates, cam fasteners and adjustable lugs to make sills, caps and lintels or steps any length from 6 inches to 6 feet. The sides and ends are bored to adjust lugs every six inches, and if any special length is desired, it is only necessary to place a wood block of the desired thickness between the lugs and the end plates.

This Outfit is operated by placing the plates in position and clamping them together with the cam fasteners upon a cement floor or upon a wood pallet. No bottom plate is needed. The material is tamped in place and the mold removed, leaving the finished product on a pallet or floor to harden and cure.

Sills are molded with the face down, and if any particular design for the top of sill is required, this form is secured by placing on the pallet in the bottom of the mold a wood filler which is the negative shape of the wash or other form required on the sill.

For making caps, which are to sustain the weight of blocks above a window, door, or other opening, it is necessary and essential to reinforce the cap with from two to four half-inch rods running the length of the cap and hook at the end. Such reinforcement should be placed near the top of the cap when molding, as it is molded top down, and this reinforcement is required nearest the bottom of the cap when it is placed in position.

Pictures on the following page show some of the designs of sills and caps that can be made on this Outfit. The limit of variety to be produced is simply the limit of the ingenuity of the operator.

WATER TABLE ATTACHMENT.

Extra attachments can be furnished with this outfit for making water table blocks 6 inches to 6 feet in length. With right and left hand corners for 10½-inch and 13½-inch widths of stone, price $17.00 extra.

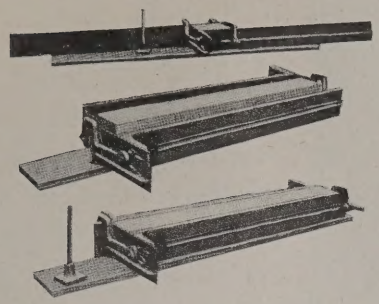
SEE BLOCKS THAT CAN BE MADE WITH THIS OUTFIT ON OPPOSITE PAGE.

List of Parts for MIRACLE Window Sill and Cap Machine.

Shipping weight, 400 pounds.

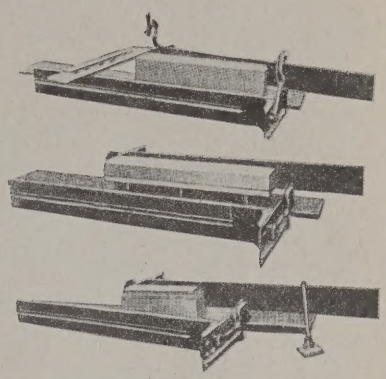
1 rock face front plate, adjustable to from 6 inches to 6 feet.
1 plain face front plate, adjustable to from 6 inches to 6 feet.
1 plain face back plate, adjustable to from 6 inches to 6 feet.
2 plain face ends, with rib 13½ inches.
2 plain face ends, with rib 10½ inches.
1 cap and sill end, to adjust length of rock face sill or cap.
2 cam fasteners, for 13½ inches.
2 cam fasteners, for 10½ inches.

MIRACLE ADJUSTABLE CAP, SILL, STEP, AND COPING MOLD



This mold is adjustable for any length of product up to 72″ and any width from 5″ to 14″. Height 8″.

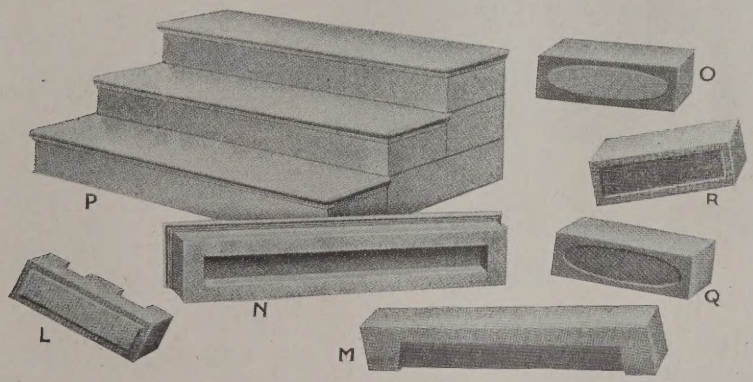
PRICE $30.00, complete. 5% Discount for cash for the full amount with the order.

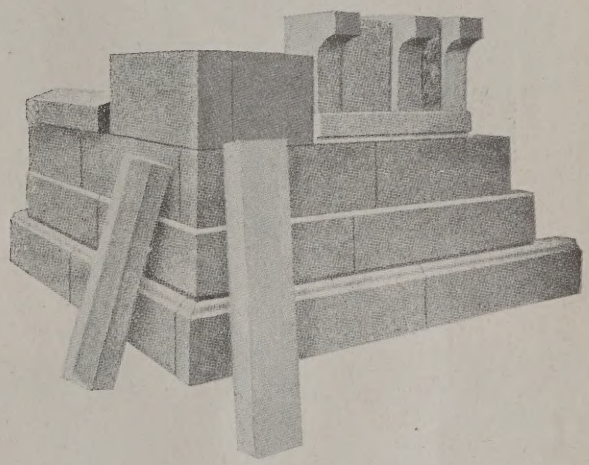


CONSTRUCTION.

The Miracle Adjustable Cap, Sill, Step and Coping Mold is made of the best gray iron castings; with the exception of the sides, which are made of seasoned lumber lined with sheet iron, in order to make the machine lighter to handle. The sides are trussed so that there is no possibility of springing them out of shape with hard tamping or usage.

It only requires a few minutes to adjust this machine for making any length or any width above specified.



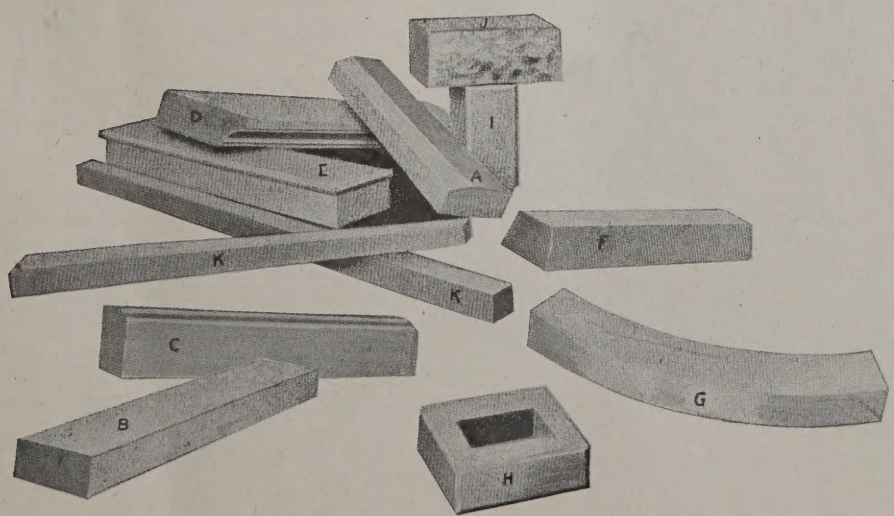


OPERATION.

A cement floor or wooden pallet is all that is necessary when using this mold. Adjust it to the length or width of the product desired, tamp it full of concrete, release the clutches and then remove the mold. The finished product is cured in the same manner as any other cement product, by sprinkling for about ten days after making.

Where a rock face cap or sill is not desired, the Miracle Adjustable Cap, Sill, Step and Coping Mold is the most practical machine to purchase. With it you can manufacture Caps and Sills of almost any desired length or width or height. If a Cap or Sill under 4″ or 6″ in thickness is required, it can be made by simply placing a filler in the bottom of the mold.

There is also a frequent call for Coping blocks, Steps and other shapes of concrete products, all of which can be made in this mold by simply inserting a wooden filler into it for making the desired design. It is especially suited for making Water Table blocks. While most block machines are equipped for making the Water Table, a product longer than the standard concrete block looks better in a building, and you can make any length of Water Table up to 6 ft. with this mold. The cuts on this page show its wide range.



A manufacturer of Concrete products cannot afford to be without this mold, and it should pay for itself with only a few Cap or Sills or other special products.

This Mold is different; better, cheaper, easier, quicker and more adjustable than all other molds on the market put together.

It was designed with a view of doing away with handling or moving the product from the pallets when freshly made. This eliminates any possible danger of damaging the Concrete product.

PRICE, Complete, F. O. B. Factory, $30.00.

A FEW POSSIBILITIES WITH A COMPLETE MIRACLE OUTFIT.

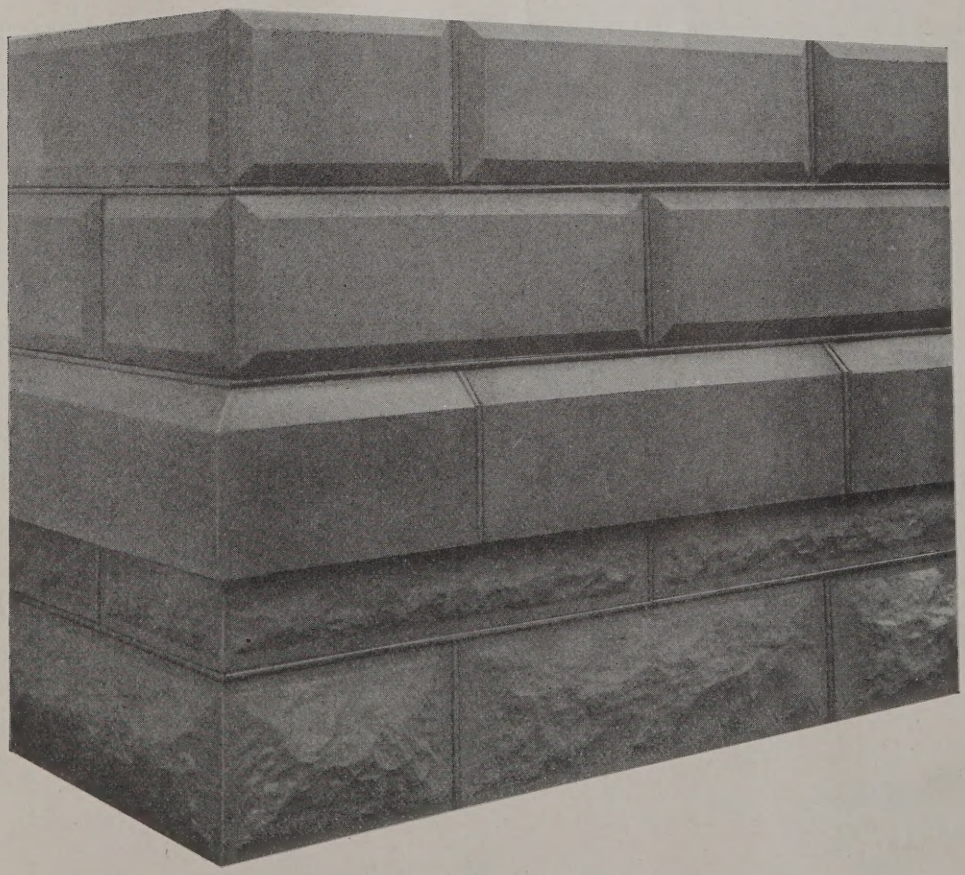
Block Exhibit No. 1.

EXHIBIT NO. 1.

Showing wall constructed of blocks made with the following plates:

"A" cornice H-130
"A" cornice, corner H-131
"B" belt or frieze..H-70
"B" belt or frieze, one-half H-71
"B" belt or frieze..H-72
"C" broken ashler..H-140
"D" half height or 4-inch block, half length H-90
"D" half height or 4-inch block, half length H-91
"E" rock face without margin H-94
"E" half rock face without margin..H-96

The Best Results Are Easily Accomplished With Miracle More Money Molds.



Block Exhibit No. 2.

EXHIBIT NO. 2.

Showing effect of rock face foundation, water table and panel face blocks for body of building, constructed of blocks made with the following plates:

"A" panel, full length. H-10
"A" panel, half length. H-9
"A" panel, end H-11
"B" water table H-77
"B" water table, end H-78
"C" half height, or 4-inch block H-90
"C" half height block, one-half H-91
"C" half height block, end..H-92
"D" bold rock face. H-62
"D" bold rock face, one-half H-63
"D" bold rock face, end. . .H-64

THE MOST ARTISTIC EFFECTS AT LITTLE EXTRA COST.

EXHIBIT NO. 3.

Showing wall constructed of blocks from following plates:

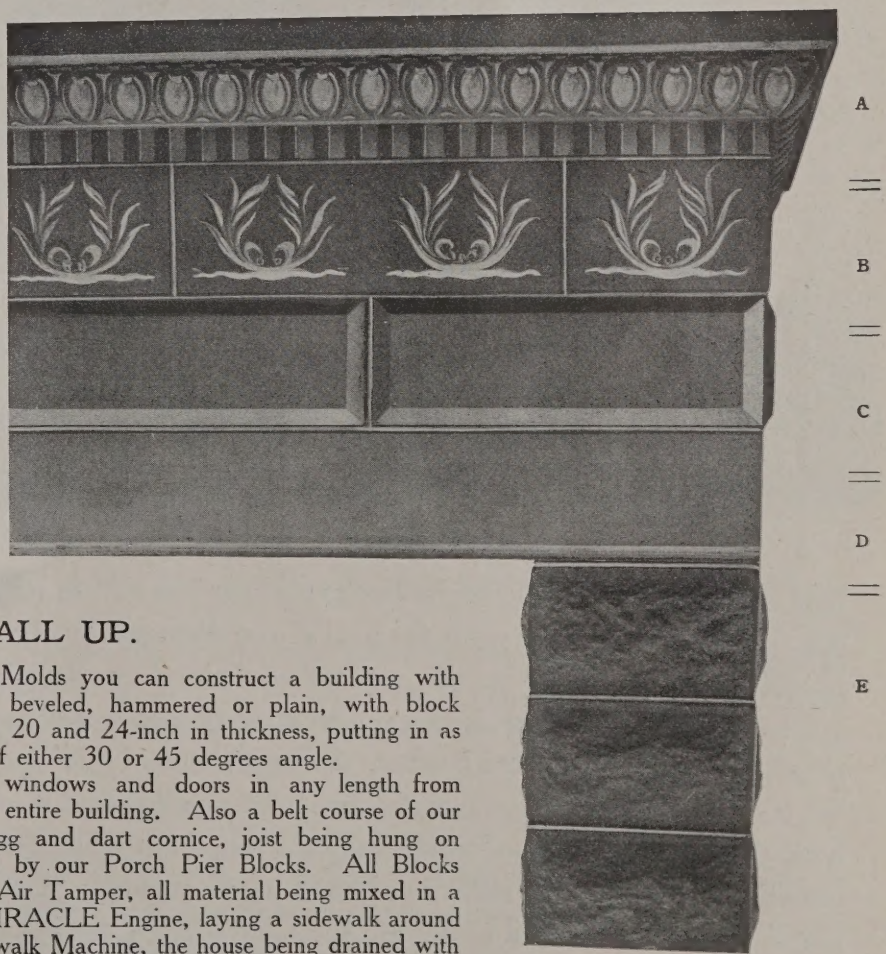
"A" hammered face H-12
"A" hammered face, end ...H-14
"B" belt or frieze H-70
"B" belt or frieze, one-half H-71
"B" belt or frieze, end ..H-72
"C" rock face without margin H-94
"C" one-half rock face without margin H-96
"D" half-height or 4-inch block..H-90
"D" half-height block, half length H-91
"E" broken ashler H-140

Block Exhibit No. 3.

EXHIBIT NO. 4.

Shows idea for porch constructed with blocks made on following plates:

"A" cornice H-130
"A" cornice, corner H-131
"B" belt or frieze H-70
"B" belt or frieze, half blocks...H-71
"B" belt or frieze, end.....H-72
"C" full length panel.....H-10
"D" Exhibit "G"...Cap and sill outfit
"E" porch pier .....Exhibit "F"



Block Exhibit No. 4.

SUMMING IT ALL UP.

With a complete equipment of MIRACLE Molds you can construct a building with any one or all of our four rock faces, broken ashler, beveled, hammered or plain, with block either 8-inch or 4-inch in height, 8, 9, 12, 16, 18, 20 and 24-inch in thickness, putting in as many chimneys as you may require, bay windows of either 30 or 45 degrees angle.

You can make rock face or plain cap sills for windows and doors in any length from three to six feet, running a water table around your entire building. Also a belt course of our wreath design finishing off the building with our egg and dart cornice, joist being hung on MIRACLE Joist Hangers, porches being supported by our Porch Pier Blocks. All Blocks being tamped, if you so desire, with a MIRACLE Air Tamper, all material being mixed in a MIRACLE Mixer, the machinery being run by a MIRACLE Engine, laying a sidewalk around the place with Block made on a MIRACLE Sidewalk Machine, the house being drained with Cement Sewer Pipe made on MIRACLE Molds, and have in your finished product a MODERN FIRE-PROOF, FROST-PROOF, VERMIN-PROOF, HANDSOME, UP-TO-DATE MIRACLE structure.

Ornamental Concrete Products

THE KEY TO CORRECT ARCHITECT IN THIS MATERIAL
AND A MOST PROFITABLE FEATURE OF THE INDUSTRY.

IN making Concrete buildings nothing can add so much to the universal popularity of the product as to carry out the idea of completeness in all concrete. A concrete house with a wooden porch shows up the weakness of wood construction by contrast. Porch posts and other wooden ornaments are not so good as they were only a few years ago on account of the impossibility to get good clear lumber. So wood used in this work not only requires frequent coats of paint but soon commences to get out of shape from warping and it very readily rots out. How often have you noticed the bottom of wood porch columns rotted out while the balance of the job is apparantly in good condition. How soon it all looks old and needs repairing and painting. On the other hand a concrete porch carries out the idea of permanancy and uniform beauty to the end. Concrete avoids all the evils of wood construction and will last forever. It can be made with our molds to compete with ornamental wood columns and balusters at a profit of 300 to 400 per cent in favor of concrete.

When you have one nice job complete, showing the building made of concrete blocks or brick with all ornamental work of concrete, it will not only sell other ornamental products but helps enormously the sales of your manufactural products, whether the trend be toward blocks or brick.

So by all means don't neglect this branch of this business. Nothing can add to the popularity of concrete like carrying out the idea of completeness.

Concrete Columns andBalusters are even being used for Porches for wooden buildings to a good advantage.

INSTRUCTIONS

FOR MANUFACTURING ORNANENTAL PRODUCTS

On account of the large number of our customers who are making ornamental concrete products, we have made extensive and exhaustive experiments to ascertain the very best way to make such products. Many customers follow the dry process in ornamental work and use one part cement to two parts of very fine sand. In so doing it is best to carefully prepare the mold, brushing them with either paraffine or R. O. U. mold wash to prevent the concrete adhering to the form. Very fine sharp sand or stone dust should be used to bring out the detail and great care taken in tamping in the concrete to insure a clean cut, perfect molding with good edges, With the dry process, the mold can be immediately removed and the product is cured in the same manner as concrete blocks, viz.—by sprinkling them for about ten days after molding,

We, however, have found by our own experienec that a more perfect capitol, column or other fancy product can be made by using the extremely wet process, which does away entirely with hard tamping and the need of such care in removing the mold. For this reason we give the following instructions which we believe will be of benefit to purchasers of ornamental molds.

PREPARING THE MOLD

Cover carefully with paraffine or R. O. U. mold wash, which is furnished by us at $1.40 a gallon, allowing the wash to thoroughly dry.

MATERIAL

Use one part of Portland cement of the lighest color obtainable and three parts of very fine sharp sand, marble dust, or crushed lime stone screenings (anyone of the three materials mentioned are satisfactory,) Mix the cement and other aggregate very thoroughly and then add water, making the mixture very wet so it assumes the nature of thick cream. Pour this mixture into the mold and allow it to settle before filling again. Being very wet, the water will come to the top and it may require three or four fillings to get a dense concrete.

With the use of a stick, stir or pump the mixture well after filling the mold to eliminate all the air from the mixture which would cause the stone to be porous on the outside. If any air bubbles do occur in the surface, fill with more cement mortar and after a day or two go over the surface with fine sand paper.

CURING

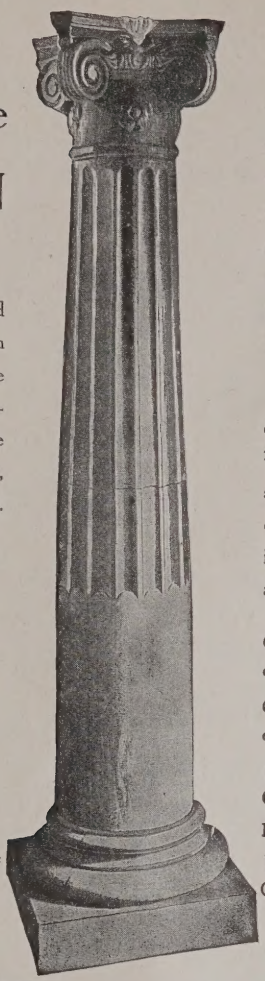
Allow the concrete to stand in the mold for two or three days. Then strike the mold lightly to free it from the concrete, take out the pins which hold the mold together, and remove the plates. The product should then stand for seven days or more before using.

To secure a specially glossy finish, rub the concrete with pumice stone moistened with silica of soda, after it is about seven days old. And to smooth up any joints use fine sand paper.

MIRACLE ORNAMENTAL CONCRETE PRODUCTS.

Renaissance COLUMN

The true cut lines and beauty of this column make it a desirable one to builders. The heaviest section of the molds to be drawn, weighs only 15 pounds.



The EMPIRE is a popular style. This column being made in short sections is very easily set. The heaviest part of the molds to be drawn weighs only 10 pounds.

Size of base, 16½x16½ inches. Diameter of shaft, 11 inches. Size of base abacus, 17 inches. Four molds are required.

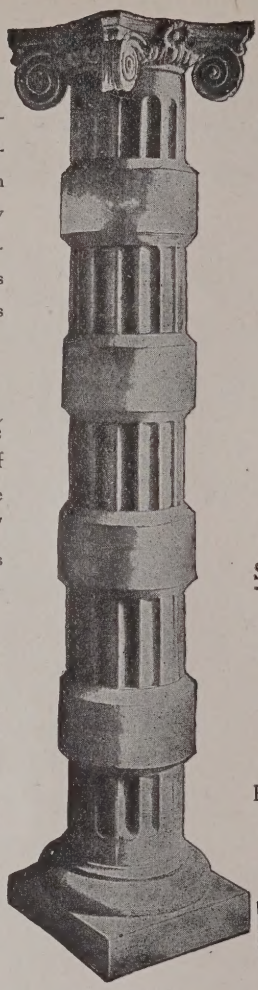
Outfit with cores. $35

Capital mold only $15

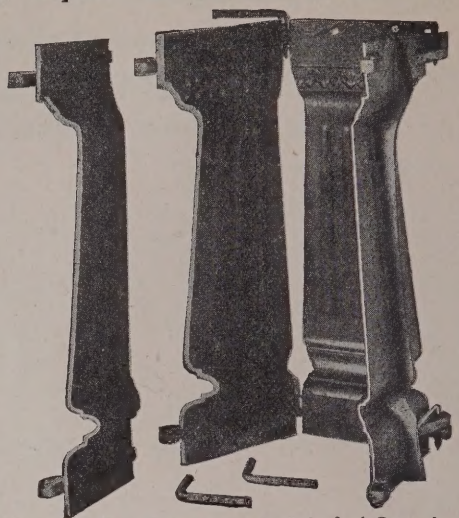
18-inch diameter.
Outfit complete. $75

18-inch, Capital only. . $25

For sizes and prices see order blank.



Square Baluster Post Mold



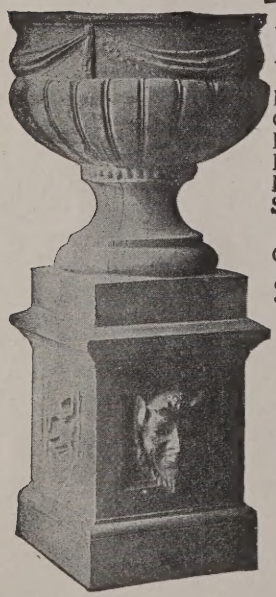
Showing Simple Fastening and Method of Operation

Newel Post

Depressed Panel

Height, 28 in. Base, 8x8 in.

Price . . $20



Lawn Vase

Height, 33½ in.
Outside dia., 16 in.
Diameter of bowl, 12 in.
Depth of bowl, 8 in,
Height of base, 15½ in.
Size of base, 12 in.

COMPLETE OUTFIT $30 Without base. . . $20

Round Baluster Posts

18-INCH ORNAMENTED WITH RENAISSANCE LEAF

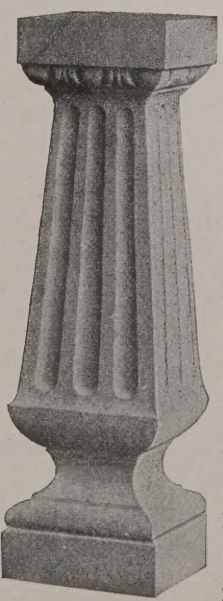
$10

Square BalusterPost

18-INCH FLUTED HEART-LEAF ORNAMENTATION

$10

Size of Base and Top, 5½ inches.



Square Baluster Post

14-INCH FLUTED ORNAMENTED WITH EGG and DART.

$10

Size of Base and Top, 4 inches.

Plain Round

14-inch, $7.50
Size of Base and Top, 4½x4½ in.

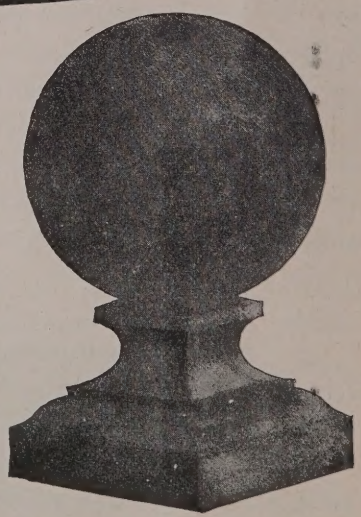
16-inch, $10.00
Size of Base and Top, 5½x5½ in.

18-inch, $10.00
Size of Base and Top, 6x6 in.

24-inch, $15.00
Size of Base and Top, 6x6 in.

Ball and Base

2½-in. Ball and Base	$3.00
3½-in. Ball and Base	4.00
6-in. Ball and Base	10.00
7-in. Ball and Base	10.00
10-in. Ball and Base	15.00
12-in. Ball and Base	17.00
15-in. Ball and Base	20.00
16-in. Ball and Base	20.00
18-in. Ball and Base	20.00



MIRACLE PRESSED STONE CO.

Manufacturers of all Kinds of
Concrete Machinery and Equipment
NICOLLET ISLAND, MINNEAPOLIS, MINN.

ORDER BLANK

Date _____ 190___

Ship to _____

_____

_____

Ship via _____

AMOUNT ENCLOSED

P. O. Order _____
Express Order _____
Bank Draft _____
Check _____
Currency _____

Quantity	ARTICLES	Price	TOTAL
	Renaissance Column Mold, waterleaf, 12-inch diameter, 6 feet 4⅝ inches high	$50.00	
	Renaissance Column Mold, 12-inch diameter, 6 feet 5 inches high, complete	45.00	
	Renaissance Column Mold, 10-inch diameter, 6 feet 3 inches high, complete	40.00	
	Renaissance Column Mold, 8-inch diameter, 6 feet high, complete	35.00	
	Capital Mold, only for above columns	15.00	
	Doric Column, 9 feet	50.00	
	Empire Column, complete, 11-inch diameter	35.00	
	Empire Column, complete, 18-inch diameter	75.00	
	Capital Mold, for 11-inch Empire Column	15.00	
	Capital Mold, for 18-inch Empire Column	25.00	
	Grecian Column Mold, 10-inch diameter, complete	30.00	
	Capital Mold, only	10.00	
	2½-inch Ball and Base Mold	3.00	
	3½-inch Ball and Base Mold	4.00	
	6-inch Ball and 8-inch Base Mold	10.00	
	7-inch Ball and Base Mold	10.00	
	10-inch Ball and Base Mold	15.00	
	12-inch Ball and Base Mold	17.00	
	15-inch Ball and Base Mold	20.00	
	16-inch Ball and Base Mold	20.00	
	18-inch Ball and Base Mold	20.00	
	Square Fluted Heart Leaf Baluster Mold, 5½x5½x18 inches	10.00	
	Round Baluster Post Mold, Renaissance Leaf, 18 inches	10.00	
	Plain Round Post Mold, 4½x4½x14 inches	7.50	
	Plain Round Post Mold, 5½x5½x16 inches	10.00	
	Plain Round Post Mold, 6x6x18 inches	10.00	
	Plain Round Post Mold, 6x6x24 inches	15.00	
	Lawn Vase Mold, complete	30.00	
	Lawn Vase Mold, without base	20.00	
	Square Baluster Mold, fluted, ornamental egg and dart, 4x4x14 inches	10.00	
	16-inch Roman Post Cap, consisting of—		
	One 12-inch Ball Mold	10.00	
	One 16-inch Roman Cap	15.00	
	One 16-inch Ball Base	10.00	
	Complete Ball Cap and Base, as above	30.00	
	Fluted Square Baluster Mold, 8x20 inches	15.00	

Total $_____

Miracle Guarantee Bond.

To Whom it May Concern: We, the Miracle Pressed Stone Company, incorporated under the laws of South Dakota, doing business lawfully in the City of Minneapolis, and each member thereof, hereby agree, as a company and as individuals, that if in any case Miracle Machines, Molds or other manufactures are found not to be as represented by us, or will not do the work claimed for them, they can be returned at any time within ninety (90) days of the date of purchase, and if in good condition, less reasonable wear, we will immediately refund the price paid for same. Prosperity for us depends on the success of Miracle customers and the prosperity of the concrete industry, hence our established policy of doing everything in our power to help them succeed.

We further guarantee equally careful and prompt attention to all customers, whether their orders be large or small.

SIGNED: Miracle Pressed Stone Co.

By the President, O. W. Miracle

ATTEST:

By the Sec'y and Treas., Rommach

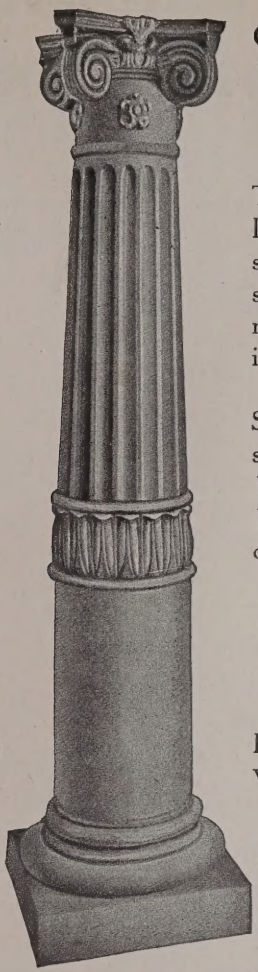
MIRACLE PRESSED STONE CO. CORPORATE SEAL SIOUX FALLS, S. D.

Minneapolis, July 1st.

MIRACLE ORNAMENTAL CONCRETE PRODUCTS.

Renaissance Column

Water Leaf Design



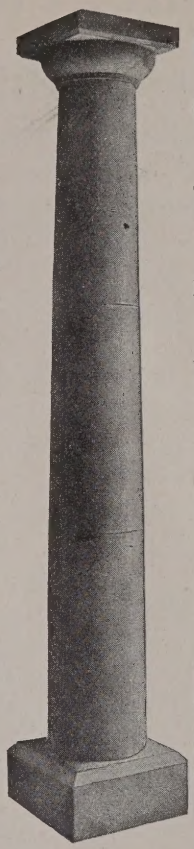
Outfit Complete . . . **$50**

Capital Mold only. . . **$15**

9-Foot Doric Column

This column is of true Doric design. The shaft is made in three sections. It is easy to make, and molds are in light sections.

Size of Base, 8x8 in.; size of base of shaft, 13¼ in.; size of neck, 10½ in.; size of abacus, 16¼ in.



Price complete with Cores. . . **$50**

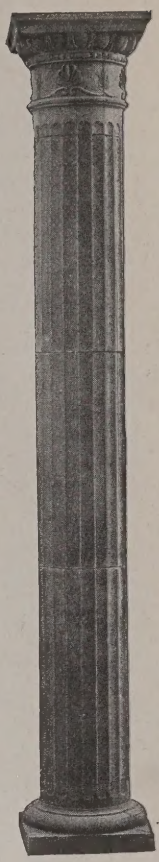
Grecian Column

This Column is parallel, 10 inches in diameter.

Four molds are required; base, capital, necking, and shaft.

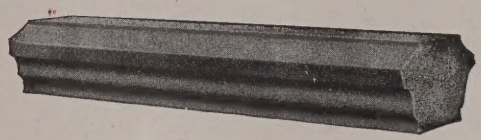
The latter is made either in 2 ft. or 2 ft. 5 in. sections and is supptied with core and a follower for making shorter lengths.

The length of base, necking and capital is 18 in. When ordering, please state whether 2 ft. or 2 ft. 5 in, shaft is preferred. Base 14 inches.



Price Complete . . . **$30**

Capital Mold only **$10**



Baluster Rail

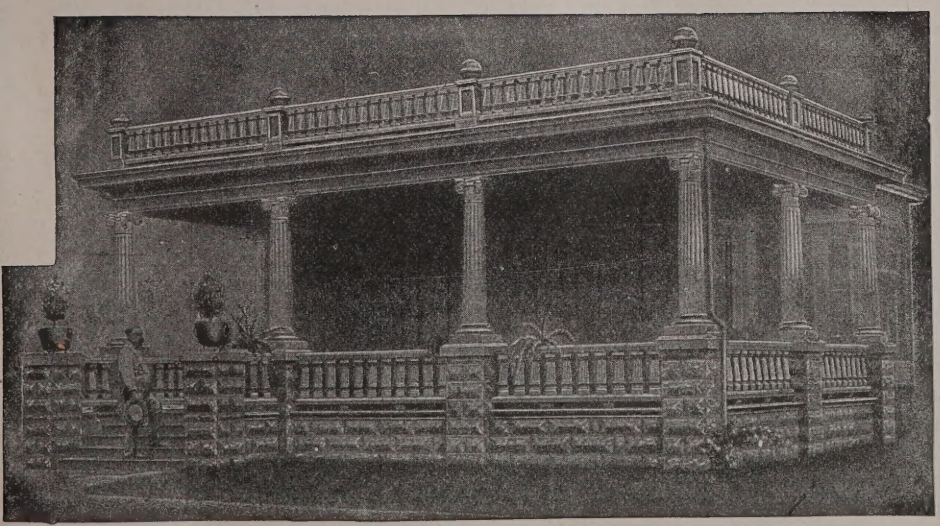
A handsome pattern to be placed in the top of the balusters. Length 32 inches. Can be used on balusters from 4 to 6 inches square . . . **$10**

16-in. Roman Post Cap

CONSISTING OF

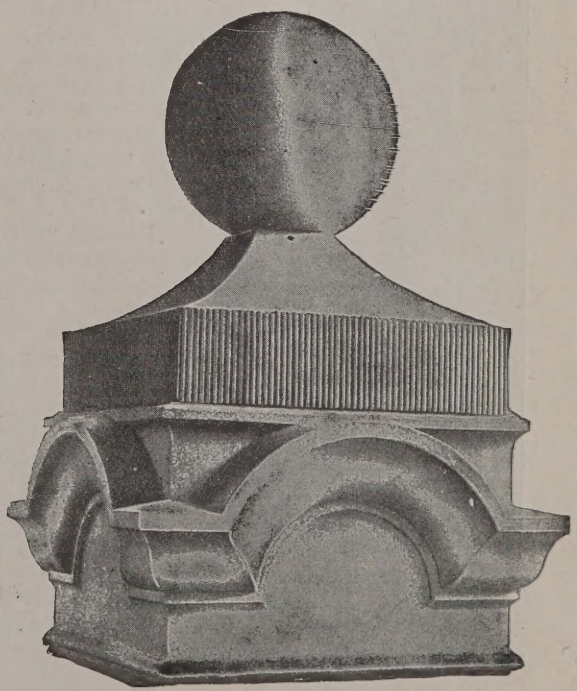
1 12-in. Ball Mold, $10. 1 16-in. Roman Cap, $15

1 16-in. Ball Base (including vertically tooled section) $10; Complete, $30



Residence of Phil. Weber, Winchester, Ohio.

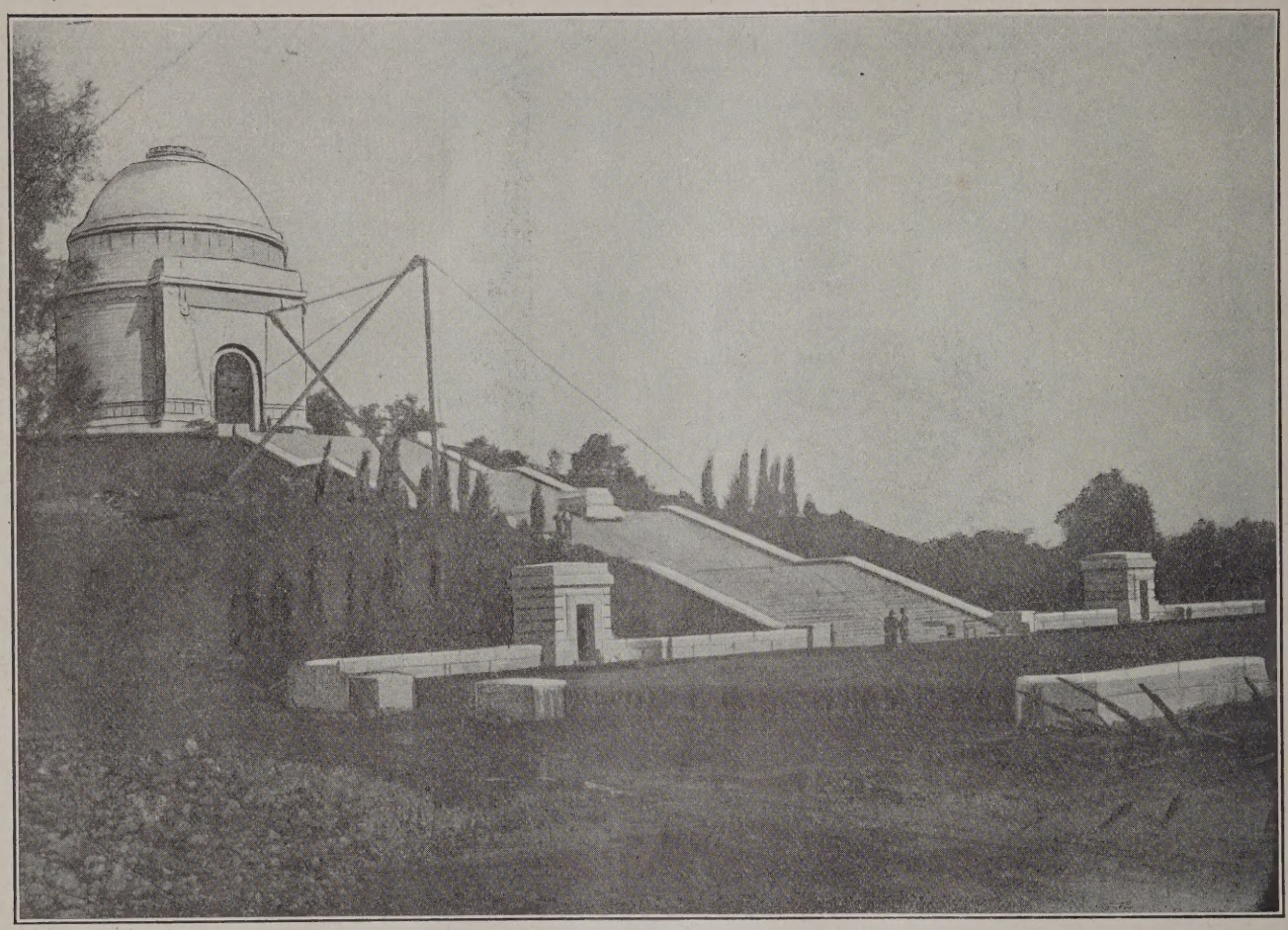
This photograph illustrates the possibilities in concrete construction bs using Miracle Special Molds.



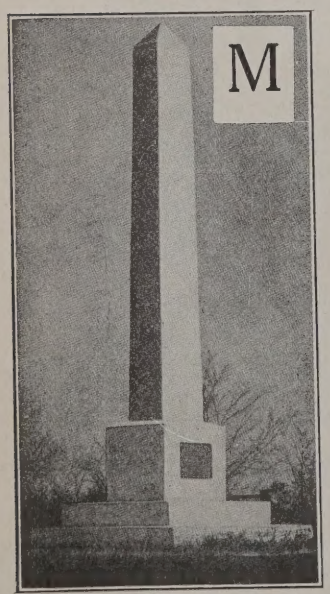
Miracle Monument and Grave Marker Molds

A HIGHLY PROFITABLE BRANCH OF CONCRETE

More Enduring than Marble—Concrete is of the Greatest Antiquity in Memorial Art



THE McKINLEY MAUSOLEUM AT CANTON, OHIO. BASE ENTIRELY OF CONCRETE. SHOWING PROGRESS OF CONSTRUCTION



Battle Monument, Murfreesboro, Tenn.
34 Ft. High. Cost $1200.
Designed by Hunter McDonald
Erected entirely in Concrete by
Oliver Construction Co., Knoxville, Tenn.

MANY times in the forward rush of the great modern industry—Miracle Concrete—we are tempted to say that we have a new idea. Archeology tells us it is only *new* because the world forgot the *old*.

Why didn't some concrete genius give us moulded monuments and grave stone markers years ago? Like the Miracle Hollow Block, it is simple enough after the idea is worked out.

Respect for our honored dead is a sentiment older than history and more enduring than stone. Men love to pay the one last tribute to their departed kith and kin by marking the place of their burial with some material that suggests lasting and reverent regard.

To the memory of the great names of history sometimes are built grand mausoleums, as that shown hereon, erected by a loving nation to the honor of a martyr president.

Similarly we build memorials to mark the great battle fields—a tribute to all those who there fought and died for their country's cause.

It is fitting that the substantial parts of these great monuments should be built in enduring concrete, rather than in crumbling marble and other disintegrating natural stone.

It sets the fashion, too, for those humbler memorials erected by loving hands for parents and other members of the household in recognition of debts of affection and gratitude, so sacred oftentimes that they are paid with sacrifices of money sorely needed for other things.

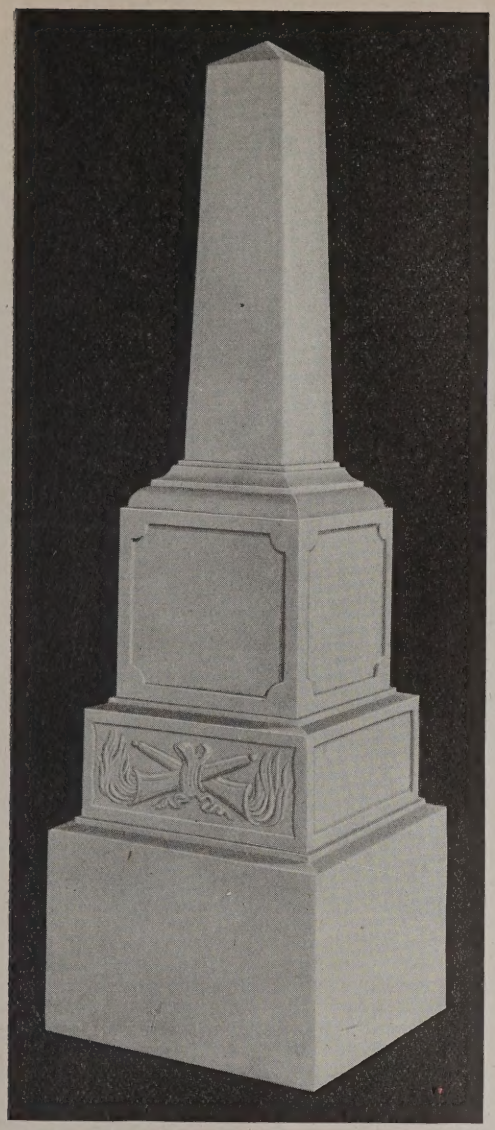
No one would seek to save money by erecting a flimsy, shoddy grave stone over a departed friend; but it certainly is within the proprieties to use for this purpose at once the most enduring of all available materials, CONCRETE; particularly when the precedents have been set by the United States Government, the McKinley Memorial Association, the various associations erecting monuments on the Southern battle fields and by thousands of other instances.

In respect for this movement, Miracle Monument and Grave Marker Molds have been prepared for the concrete trade. The designs here offered were made from sculptured models especially prepared by one of the leading sculptors of America. They are thus guaranteed to be artistically correct.

There is an immense field for the operation of those who will take the initiative in engaging in this branch of the concrete industry. It strikes the great middle and industrial classes, the well-to-do farmers and the people living in the smaller towns. The people living in large cities are less likely to become patrons,—but even there the Miracle Monument Molds will prove a good investment.

The use of these molds in various parts of the Union has already shown that this will be a great industry; not so extensive as building, but relatively much more profitable to the man who will give it persistent attention.

Miracle Monument Molds



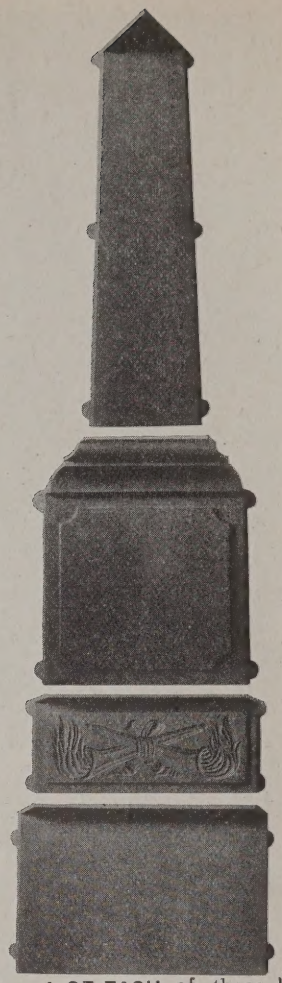
No. 1 Obelisk, 84 in. high, 36x36 in. base.
Cost in cut stone $150.00
Cost for labor and materials made in concrete, not over..... 6.00
Cubic contents..... 12 cu. ft.
Sells for..... $50.00 to $60.00
MIRACLE MOLDS, for parts, 4 sections complete..... $115.00
No. 2 Obelisk, 42 inches high..... 57.50

Practical concrete workers will have no difficulty in seeing the close relationship between the complete monument and the molds shown on this page. Only one of each set of four parts is shown, there being 16 in all to form Obelisk No. 1 of the Miracle Monument Molds Series.

The four parts of the obelisk (the shaft, the die, the second base and the base) as shown by the separation between the molds, are molded separately, and are set up the same as if cut from granite, a cement joint serving to make them, in fact as in appearance, one solid and enduring piece.

These designs are from the hand of a well known sculptor whose services were employed to give the Miracle Monument Molds the highest standing in memorial art. Without exception they have been pronounced graceful and appropriate, not alone by those who may be said to have studied the canons of artistic taste, but by the great public to whom they naturally appeal.

The molds are technically correct in form so as to *draw* well; they are all finished in the highest order of concrete mold manufacture and they will prove very profitable to many hundreds of enterprising men who will work while the big profit earning days are here.



4 OF EACH of these molds constitute the No. 1 Obelisk Base, Second Base, Die and Shaft.

Low Headstone Molds

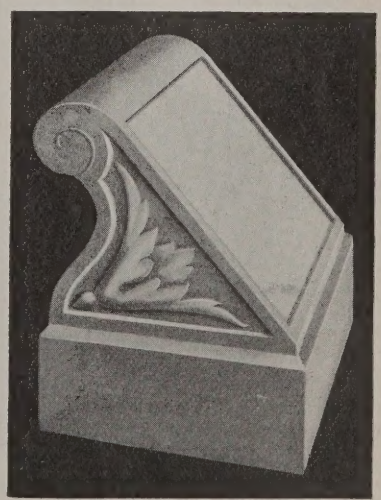
The metal molds for the two low headstones on this page are not shown on this leaflet. A general idea of the Miracle Monument Molds is given above. It is assumed that all practical concrete workers will understand the construction by the illustrations here shown.

The faces for lettering on both these headstones are shown in concrete. In cases where the lettering can all be put on complete at the time the headstone is erected, this can be done at very small expense by appropriately formed letters that can be placed on the face plate at the time the stone is made. We supply letters. Where desired an inexpensive slab of marble can be set in the face and cemented in place. Upon this the inscription may be carved as desired from time to time, as in the case of natural stone monuments.

Further particulars regarding the practical questions connected with the Miracle Mold branch of the great modern industry will be gladly given. Write at once.

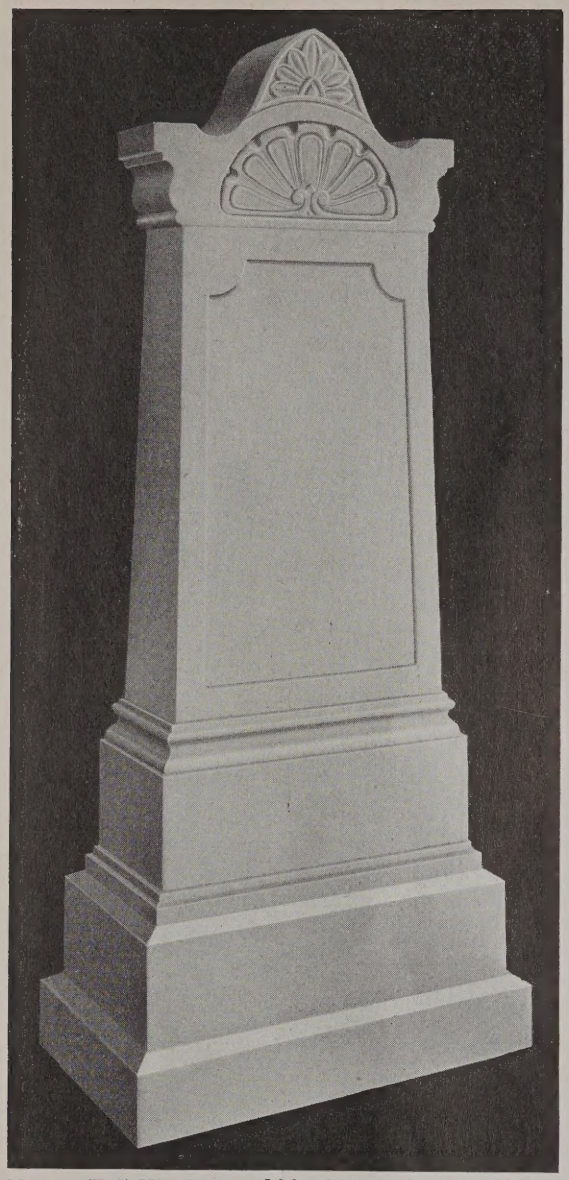
For instructions in making product see page 41

No. 4 Low Headstone 22 in. high, 24x18 in. base.
Cost in stone..... $75.00
Cost for labor and material in cement... 2.50
Cubic contents..... 3½ cu. ft.
Sells for $25 to $30, with marble slab for letters.
MIRACLE MOLDS, 4 parts including top section $50.00



No. 5. Low Headstone, 24 in. high, 18x24 in. base
Cost in stone..... $75.00
Cost for labor and material in cement..... 3.50
Cubic contents..... 4½ cu. ft.
Sells for $30 to $35 with marble slab for letters
MIRACLE MOLDS—4 parts including top section..... $60.00

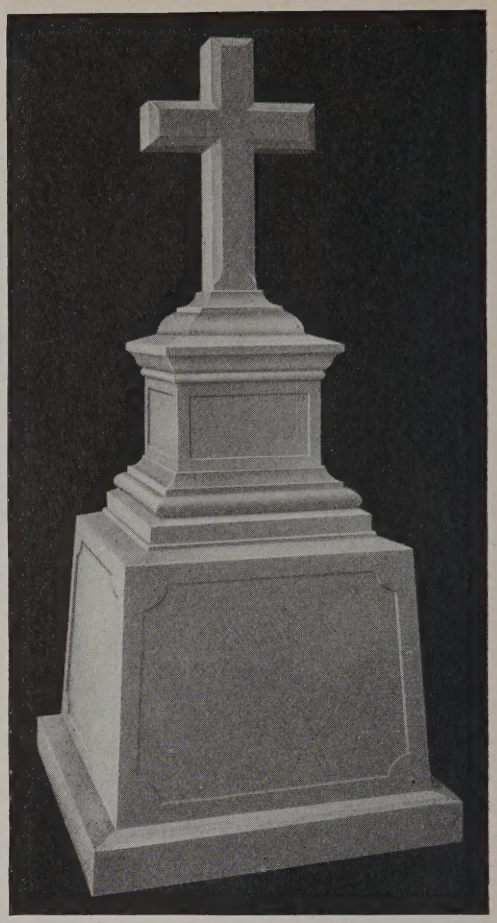
Miracle Grave Stone Molds



No. 2. Tall Headstone 86 in. high, 36 x 20 in. base
Cost in cut stone.....$150.00
Cost for labor and materials in concrete..... 6.00
Cubic contents..... 12 cu. ft.
Sells for $60 to $70 with marble slab for lettering.
MIRACLE MOLDS—4 parts 4 sections, complete..$110.00

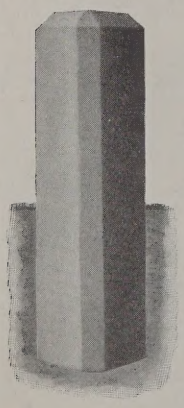
By cutting the cost in two and at the same time giving a more enduring and more appropriate monument for the dead, the number of headstones that can be sold is not only doubled—it can be quadrupled. There are more than twice as many people who can and will pay from $30 to $70 for an appropriate grave marker than of those who can and will pay $150 or more—the two monuments being about equally desirable.

Furthermore, there is the added advantage in the Miracle Monument Molds that the business can be solicited on the price argument and at the same time showing that it is in line with the largest and finest memorials, like those of the martyr President McKinley and others.



No. 3. Headstone and Cross 66 in. high 30x30 in. base. Cost in stone.....$120.00
Cost for labor and materials in cement.. 5.50
Cubic contents.....11 cu. ft.
Sells for $45 to $50 with marble slab for lettering
MIRACLE MOLDS—4 parts, 3 sections, complete..... $105.00

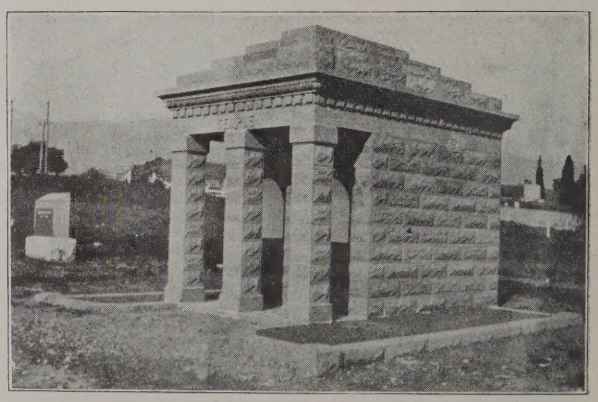
As a matter of fact, concrete monuments have no apology to offer as compared with granite or marble or the iron crosses which are quite popular among certain nationalities. The concrete burial marker business is a sure money maker to the man who will push it; and the largest profits will be made by those who get into it at the start.



Miracle Grave Lot Post Molds

Here is a product that can be sold very readily in every cemetery. The lot number can be indented in the head with date or any other mark. The cost of making this handsome post does not exceed 25 cents. The size is 6x6x24 inches and it can readily be sold for $2.00

MIRACLE POST MOLDS in two parts perfectly finished. Price $12.00



ROPE FACE COPING BLOCK will beautify any grave lot. It has a ready sale on handsome profits.
FACE PLATE 2½ in. x 4 ft.....$5.50 FACE PLATE 3½ in. x 6 ft.....$7.50

MIRACLE CONCRETE BURIAL VAULT MOLDS.

Concrete is used for many purposes, but it is the material of all materials for burial vaults. Sectional stone, slate and steel vaults all answer a purpose, but let us consider the advantages and disadvantages in the several kinds of vaults.

In using a sectional vault the grave must be dug ten to twelve inches larger than necessary in order to give room for a workman to cement the joints and make them tight. You have from eight to twenty joints to seal. Can you seal them in a manner that you feel sure they are air-tight and water-proof? When you have a wet grave, can you set a sectional vault in it? These are points we are going to leave wholly to your consideration. We all know steel rusts. How long will a steel vault stand the dampness of the ground, and can it be made water-tight to start with? A careful consideration of these points, and a comparison of our vault with others will certainly convince you that the Miracle has none of the objections to other vaults.

By examining the cut on this page you will see how easy it is to place the vault in the ground and seal the lid tight.

The Miracle is made on the latest and most scientific method.

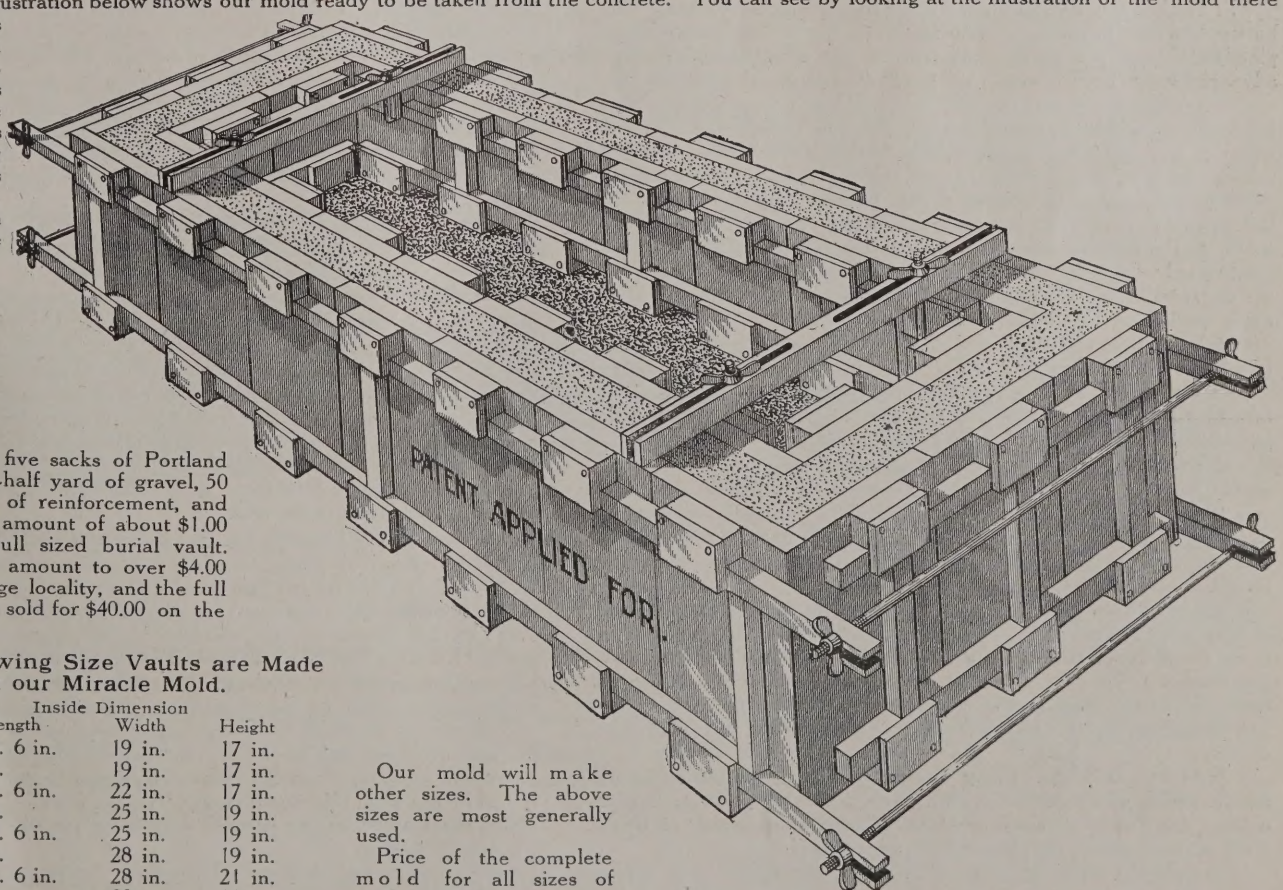
The Miracle is water-proof and air-tight.

The Miracle is practically proof against grave robbery.

The Miracle is indestructible.

All materials used in the construction of the mold are best quality, the wood being first quality seasoned poplar, having all parts that come in contact with the raw material covered with galvanized iron.

The illustration below shows our mold ready to be taken from the concrete. You can see by looking at the illustration of the mold there are no bolts or screws in the construction, the bolts holding the side braces in place being the only ones to be removed in adjusting the mold.



THE MOLD

Cost To Manufacture.

It requires five sacks of Portland cement, one-half yard of gravel, 50 cents worth of reinforcement, and labor to the amount of about $1.00 to make a full sized burial vault. This will not amount to over $4.00 in the average locality, and the full sized vault is sold for $40.00 on the average.

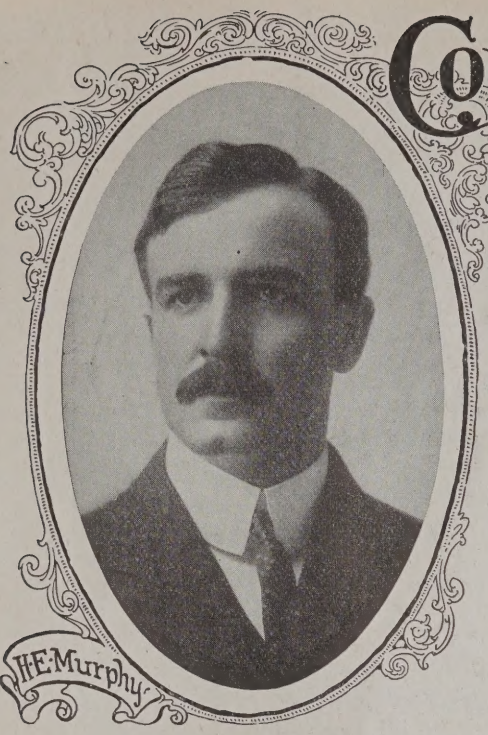
The Following Size Vaults are Made on our Miracle Mold.

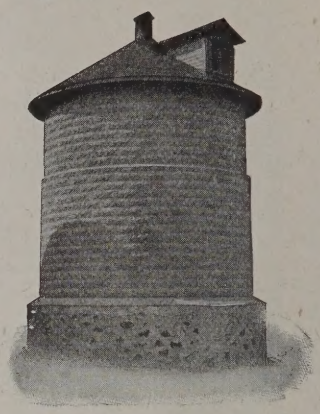
No.	Inside Dimension Length	Width	Height
3½	3 ft. 6 in.	19 in.	17 in.
4	4 ft.	19 in.	17 in.
4½	4 ft. 6 in.	22 in.	17 in.
5	5 ft.	25 in.	19 in.
5½	5 ft. 6 in.	25 in.	19 in.
6	6 ft.	28 in.	19 in.
6½	6 ft. 6 in.	28 in.	21 in.
7	7 ft.	28 in.	21 in.
7⅓	7 ft. 4 in.	31 in.	21 in.

Our mold will make other sizes. The above sizes are most generally used.

Price of the complete mold for all sizes of vaults, $100.00 f. o. b. factory.

Concrete and Concrete Blocks on the Farm





Extracts from a Paper Read at the Cement Products Convention at Chicago, January 1908 by H. E. Murphy, Manitowoc, Wis.

The uses to which concrete may be put on the farm are as unlimited in their scope as in any other industry. You have a wide rage from a dairy house to a piggery, from a residence to a root cellar; foundations and barn floors, feeding troughs and mangers, water tanks and cisterns—you will find the farmer ready to put in all of these permanent improvements as fast as he can afford them. * * * The farmer is quick to adopt any new device that will save labor or enable him to get a larger return on his investment.* * * If you are looking for a class of good steady customers, cultivate the farmer

The class of farms which the cement man finds most profitable are dairy farms, for concrete is the ideal building material for all buildings connected with this department. * * * The advantages of a concrete manager are obvious, for cleanliness is just as important here as in any kitchen.

The dairy house must be kept clean and wholesome, and here again echo answers, "Concrete." And so on to the end of the chapter.

In nearly every detail of permanent improvements concrete can be used to best advantage. The farmer is, as a rule, more completely at the mercy of the fiery element than any other class. Marked advances have been made in all lines of agricultural methods and machinery, but the farmer of today is as helpless in case of fire as was his predecessor who cleared the land. For this reason you will find that the fireproof qualities of cement blocks are a much stronger talking point in the country than in cities. * * * Another great point in your favor when you are figuring cement blocks on the farm is that the country mason as a rule takes very kindly to the blocks, and with very little trouble can be taught to do really good work with them. The country mason usually works by the day, and I have yet to find one who was not willing to do a full day's work, and I find that I can figure about 40 per cent less for mason labor here than with city masons, and can compete very comfortably with common clay brick. * * * From the first I have met with a vastly different treatment from the country mason, and it is to him that I attribute very largely the success which we have met in introducing cement blocks among the farmers.

Cheese factories and creameries are also very good fields for the cement man to browse in. For here, besides the fireproof qualities, you have the strong advantage of cleanliness in your favor. Some of you may be inclined to think that I lay too much stress on the fireproof feature, but I assure you I am only telling you what experience has taught me to be true.

We have built quite a number of farm residences, country stores, cheese factories, etc., but there was nothing particularly distinctive about them to warrant my burdening you with the details of their construction. We have, however, specialized to a certain degree in one type of farm building which has attracted a small measure of not unpleasant notriety among makers of cement blocks and block machinery. I refer to silos.

A silo is a building, usually circular in shape, which is designed for the storing of fodder while still green, for subsequent feeding of cattle. The theory of a silo is identical with the canning of fresh fruits and vegetables for consumption by humans.

The essential condition for making and preserving a good quality of silage is the close packing of a suitable material in a receptacle from which the air may be completely excluded

As the silage settles there is a strong outward pressure, so that it is necessary to build the walls firm and rigid. This is the principal reason for building a silo circular instead of rectangular in shape.

While frost is not permanently harmful in silage, it is an advantage to make the walls as nearly frostproof as possible.

After explaining that stone and brick silos are very expensive, the stave silo is discussed, and objected to as follows:

The stave silo is very much the same as a water tank, and as a silo is filled with its juicy contents about five months of the year and for the remaining seven months stands dry and empty, the effect is the same as if a wooden water-tank would be left dry and empty during the summer months.

It is clear to even the causual observer that the remedy for all these evils is a cement block silo. We have engaged in the manufacture of cement silo blocks to quite a large extent.

We procured a set of circular plates, and by altering slightly the cores of the block machine we were using, equipped ourselves with an outfit. We mold our blocks circular in form, so that when laid in the wall they make a true circle without any cutting or fitting. Along the outer edge of the top of the block we put a one-half inch groove, in which we put a steel wire or band to assist in taking up the lateral pressure when the silage is settling.

The diameter of a silo depends of course, on the capacity desired. It is better to incsease the depth rather than the width within certain limits, for two reasons: Increased depth gives greater pressure and closer packing, resulting in a more thorough exclusion of the air. Then a silo should be so calculated that the surface will be fed off each day.

The average size silo that we build is 14 feet 6 inches inside diameter and 30 feet high. The construction of a silo of cement blocks is simple. The foundation is built very cheaply of field-stone, or preferably of concrete. We excavate a circular trench and fill it with concrete, and when the concrete sets, remove the earth from the center.

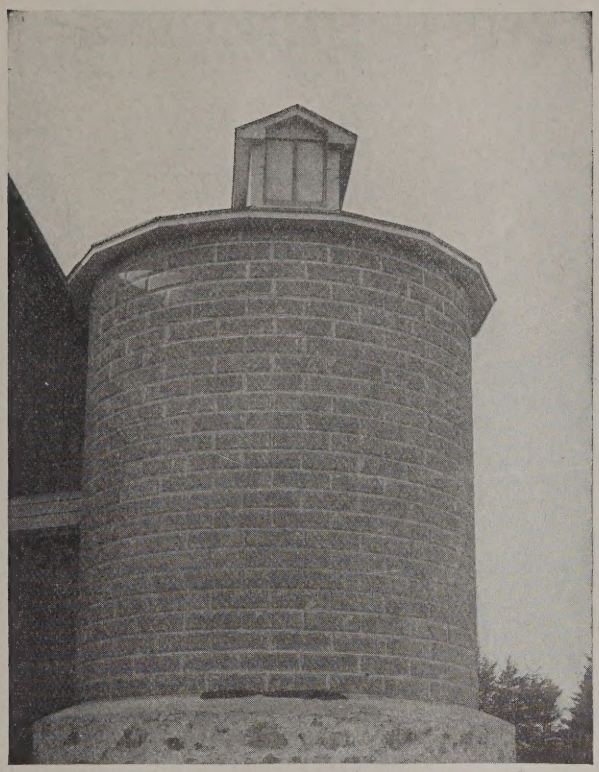
The blocks are laid in the same manner as in an ordinary building, except that steel-wire bands are put in the grooves at about every third course. A silo is usually built with a door up the entire height, to allow for the removal of the silage as it is taken off the top, Across this opening we put five-eighths inch rods, which are tied with the steel wire about one inch from each side. This provides a good ladder and strengthens the wall.

We use no door frames, but make a special jamb block, notched to receive a two inch plank, which is put in place as the silo is filled and held in position by the pressure of the silage. This provides a cheap but good door, and there is no frame to rot away.

The advantages which we claim for our silo are: It is a permanent building. The first cost is the limit of the outlay, and no painting or other repairs are required. It needs no adjusting of bands, as is necessary to allow for the shrinkage and swelling of stave silos.

A cement block silo is cheaper than brick and stone because of the ease of which they are laid. The cost of laying our blocks, using country masons, run from 2½ cents to 4 cents a block, our block being 24 inches long, 8 inches high and 9 inches thick. This is for labor alone, the cost of mortar being the same as for any other form of block building.

BUILDING CONCRETE BLOCK SILOS



DOUBLE AIR CHAMBER CONCRETE SILO BLOCK MACHINE.

Price, $75.00.

Silos are becoming a very common thing, and there is no branch of the concrete industry which affords a better field for profit than the manufacture of the Double Air Chamber Silo Block.

Material is necessary in a structure of this kind that will not decay, and also a form of construction is necessary that will make a wall that is as impervious to frost as possible.

We equip a special Double Air Chamber Silo Machine that will make a stone 24 inches long on the face side, and 8 inches high, and we will furnish this machine in either rock, panel, hammered, or the plain face design, bent for any diameter; also for any width of block specified, although the 12-inch is usually preferred.

A complete outfit consists of the following parts:—One iron base with cores, one face plate, one back plate, one left ribbed end plate, one right ribbed end plate, two cam fasteners, two tampers, and two mallets. Price, $75.00.

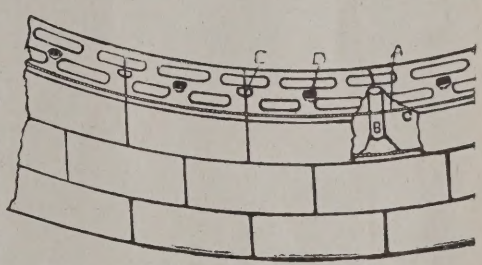
Parties having our regular Double Air Chamber Block Machine will be furnished extra plates for making this silo block, which can be adjusted to the regular machine, for $23.00.

We have on hand a lead pattern which enables us to make a plate for any diameter promptly on receipt of order.

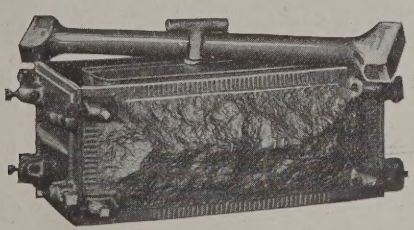
In ordering, always specify the diameter of the silo or circle, measurements to be taken from the inside of the block. Also specify the width of block that you desire to manufacture.

COMPARATIVE COST

A rubble stone silo 30 feet high and 14 feet in diameter, requires about 3,000 cubic feet of stone, because it must be built with a two foot thick wall. This stone costs with masonry about 12 cents a cubic foot, which is about $360.00 for complete silo. 1,000 8x9x24 concrete blocks will build the same silo, they cost laid about 18 cents each, or $180.00 for a complete silo. This means a profit of about 100 per cent when competing with natural stone, making a frost proof silo, while the natural stone will freeze through.



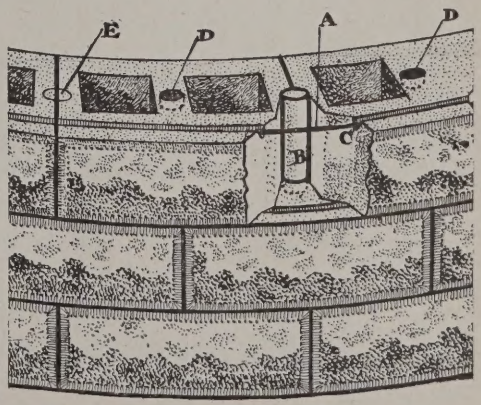
Sectional view Double Air Space Concrete Silo Blocks in place.



SINGLE AIR SPACE SILO MACHINE.

Price, $17.50.

We have had a large demand for a low priced silo machine from people interested in concrete. We have, therefore, gotten together a machine for making a single air chamber silo block, which consists of the following parts: one face plate for full length block, 8x18 inches face, one face plate for half blocks, one back plate, one left end plate, one right end plate, two tampers and one core. Price $17.50.



Sectional view Single Air Space Concrete Silo Blocks in place.

In Ordering a Machine specify inside diameter of Silo and width of Block desired.

MIRACLE BLOCKS
AS THEY SHOW IN ACTUAL BUILDING

County Poor Farm, Park Rapids, Minn.

THE STORY AS THE CAMERA TELLS IT

The photographs reproduced in the following section of this exposition of Miracle Concrete tell their own story in a manner which will leave no uncertainty in the minds of the reader. It has not been the purpose to show only a few styles of buildings, or even of the more expensive of modern buildings, we include some that may not be regarded as the highest type of architecture, but the average is high and a great improvement over the buildings erected only a few years ago.

The special purpose is to show the various uses to which Miracle blocks are actually put by the average run of builders the country over. We wish particularly to illustrate buildings of the kind that will appeal to the average investor. We will be pleased to put prospective builders in touch with owners of the buildings herein shown. In this manner cost prices may be secured and such other information as may be desired.

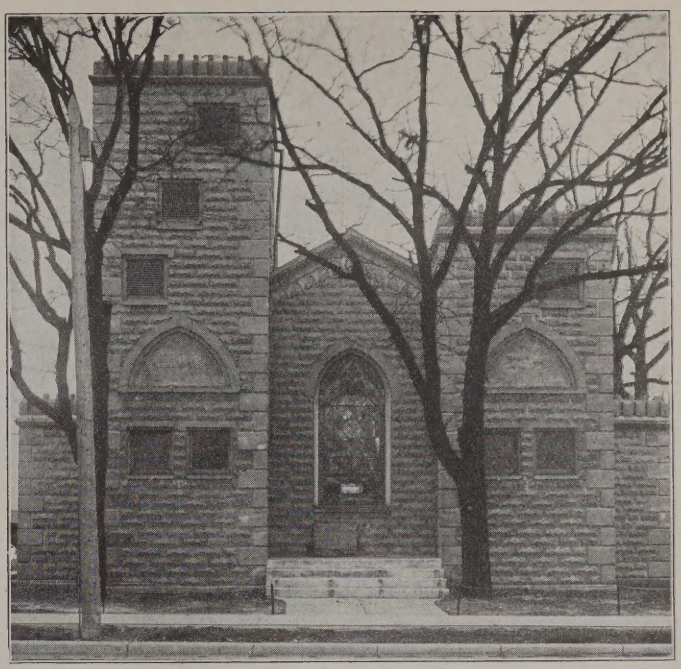
We call particular attention to the pages in this section showing plans. These are intended to give an idea of the character of the Portfolio of Concrete House Plans which we are now preparing.

CHURCHES

OF VARIOUS DENOMINATIONS

BUILT OF

MIRACLE BLOCKS



Presbyterian Church, Kalamazoo, Mich.

This church shows the fire test of Miracle Blocks. In February 1906, the roof and interior were completely destroyed by fire but the walls were not injured, although deluged with water. A new roof and interior finish made the church as good as ever, as shown by this photo taken April 15, 1908.

M. E. Church, Watertown, Wis.

Church, Port Hope, Canada.

Baptist Church, Emerson, Manitoba, Built by E. Casselman, Size 40x72 feet. Cost $10,000.

SEE ALSO

LUTHERAN CHURCH

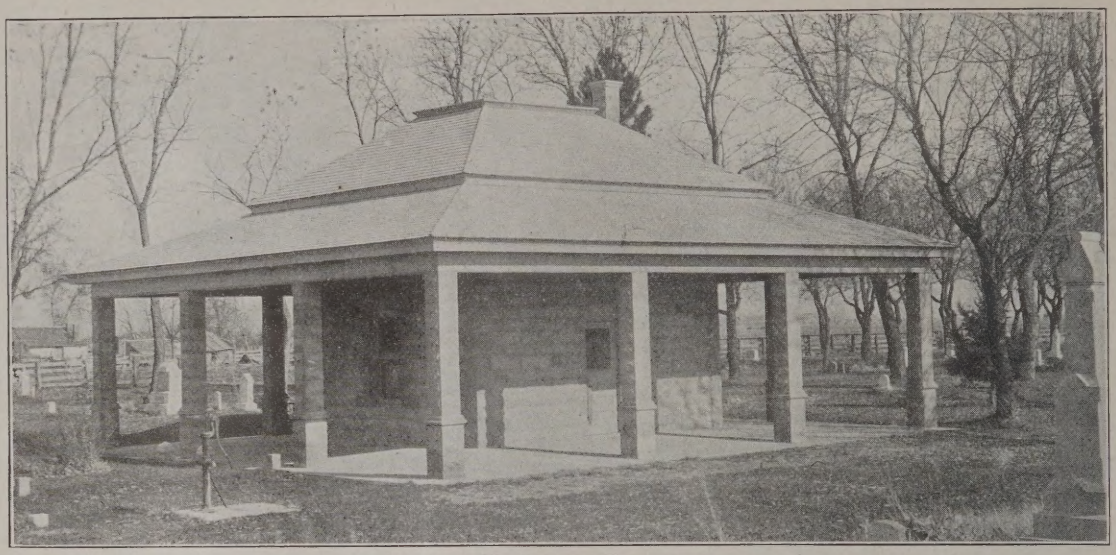
AT

WATERTOWN, WIS.

on page 5.

MIRACLE BLOCKS ARE USED IN MANY WAYS.

A Village Band Stand.

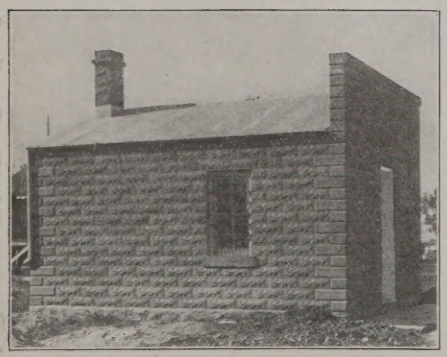


Shelter House in Cemetery.

Blocking in a Boiler.

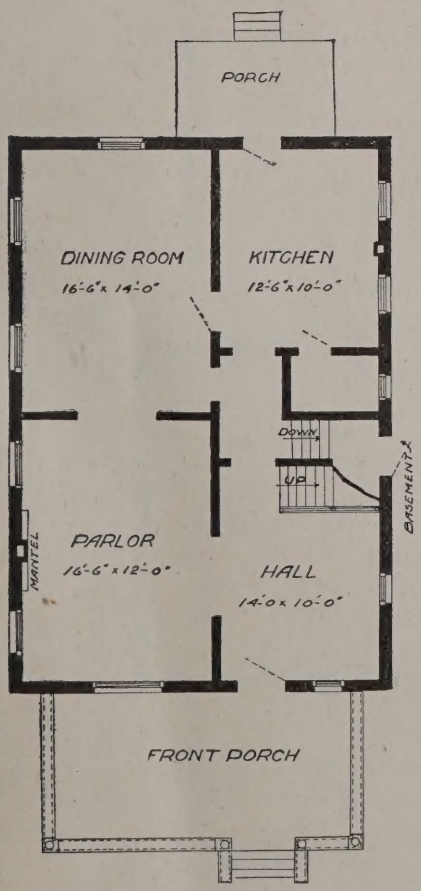
Lumber Yard Office.

A Modern Hog House.



Village Jail.

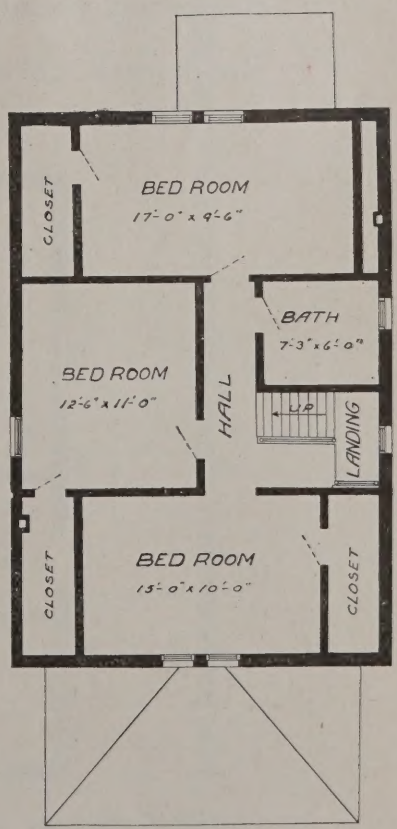
BUILDINGS BUILT OF MIRACLE BLOCKS



A ROOMY MODERN MIRACLE RESIDENCE

This house has six rooms, reception hall, bath and ample closets. The design is one of the greatest convenience to be found anywhere for the average well-to-do family; an excellent design for sale or to rent. Note particularly the use of the Miracle porch columns, which, for the cost. are the cheapest feature about the building. Their cost is less than wood, which soon rots out at the base. Concrete is indestructible, which, being also used in the floor and steps, insures the builder that no repairs will be necessary.

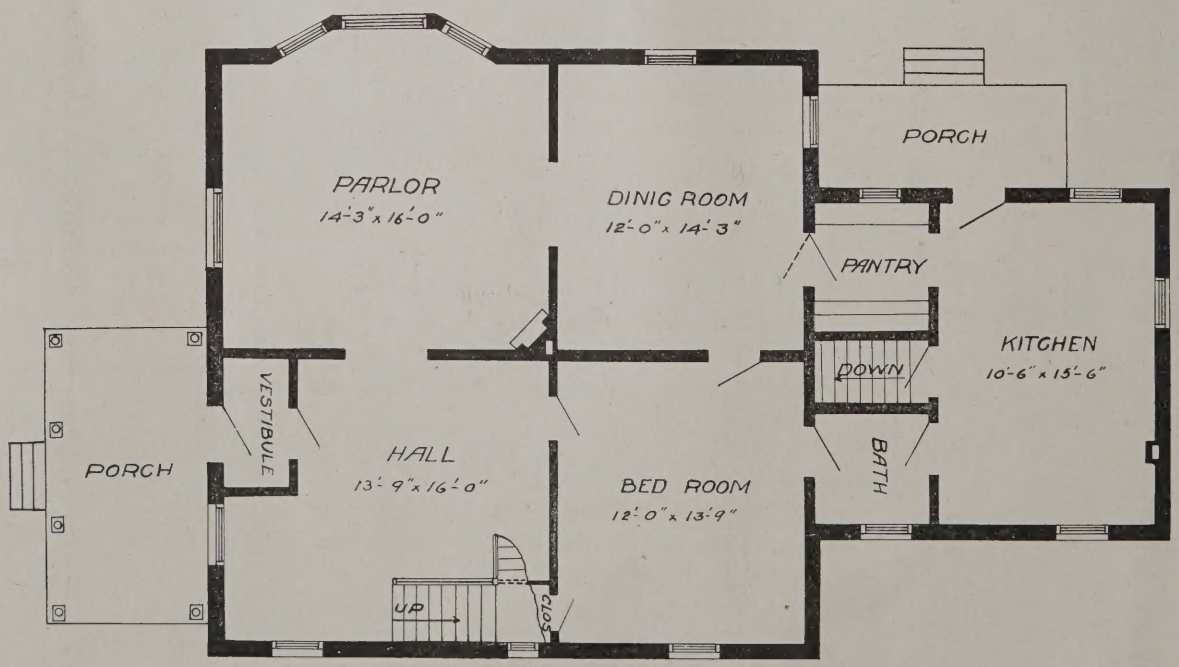
The body of the walls is constructed of rock face blocks, two tiers of 4-inch blocks being used as bell courses. The corners are relieved with panel-faced blocks, the concrete being finished with a wreath belt course. The sills are rock face and the caps plain. The building is even more pleasing in fact than the illustration indicates.



BUILDINGS BUILT OF MIRACLE BLOCKS

A MEDIUM PRICE MIRACLE RESIDENCE.

This building is constructed in the main of bold rock face Miracle Blocks, all corners and openings being trimmed with panel face. A 45-degree angle bay-window gives a pleasing character to the side of the building.



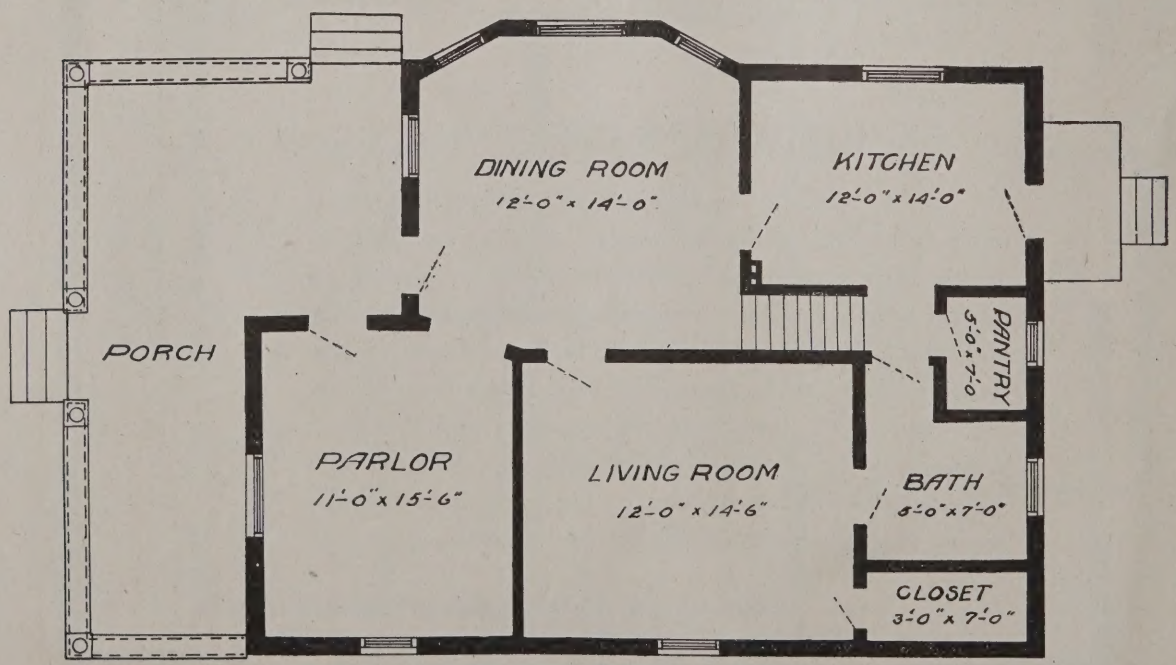
SIX-HORSE FIRE PROOF BARN.

In this building the architect has designed an absolutely fire-proof and sanitary barn, and has attained an artistic effect throughout. Note the effect in putting in cement brick around the various openings to give variety and freedom in design. The cement tile roof sets off the building admirably and precludes any danger from fire on the outside. The interior is white-washed and thus kept sanitary and odorless. The drainage is perfect. Ample room is provided for vehicles on the main floor and the second story gives storage for hay and bedding.

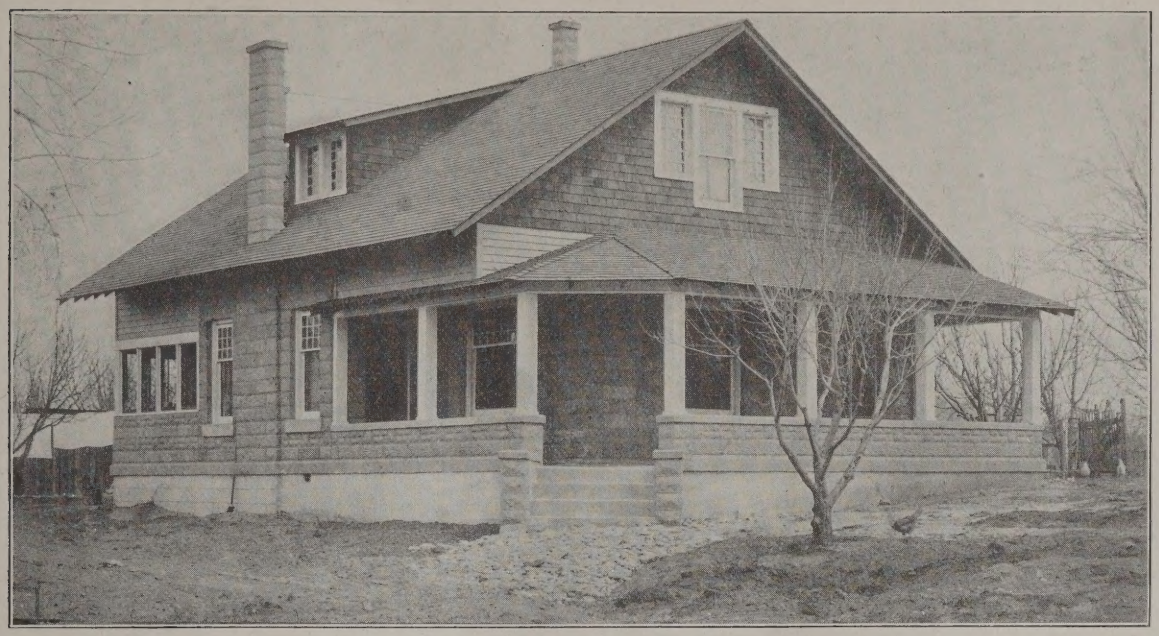
BUILDINGS BUILT OF MIRACLE BLOCKS

A ROOMY CEMENT COTTAGE.

This cottage is particularly interesting in that it shows the possibilities of cement porch design. The main body of the house is supported in the front by four 12x12 rock face piers and two pilasters. The base of porch is constructed of water table blocks, rock face cement brick being used to give a lattice effect. The porch is large and roomy. The wall and chimneys of the house are of rock face blocks and all caps and sills are of plain face. Particular attention is called to the 45-degree bay-window in the dining-room. Note particularly that in this window all joints are properly broken, which is an important feature of the Miracle equipment.



BUILDINGS BUILT OF MIRACLE BLOCKS



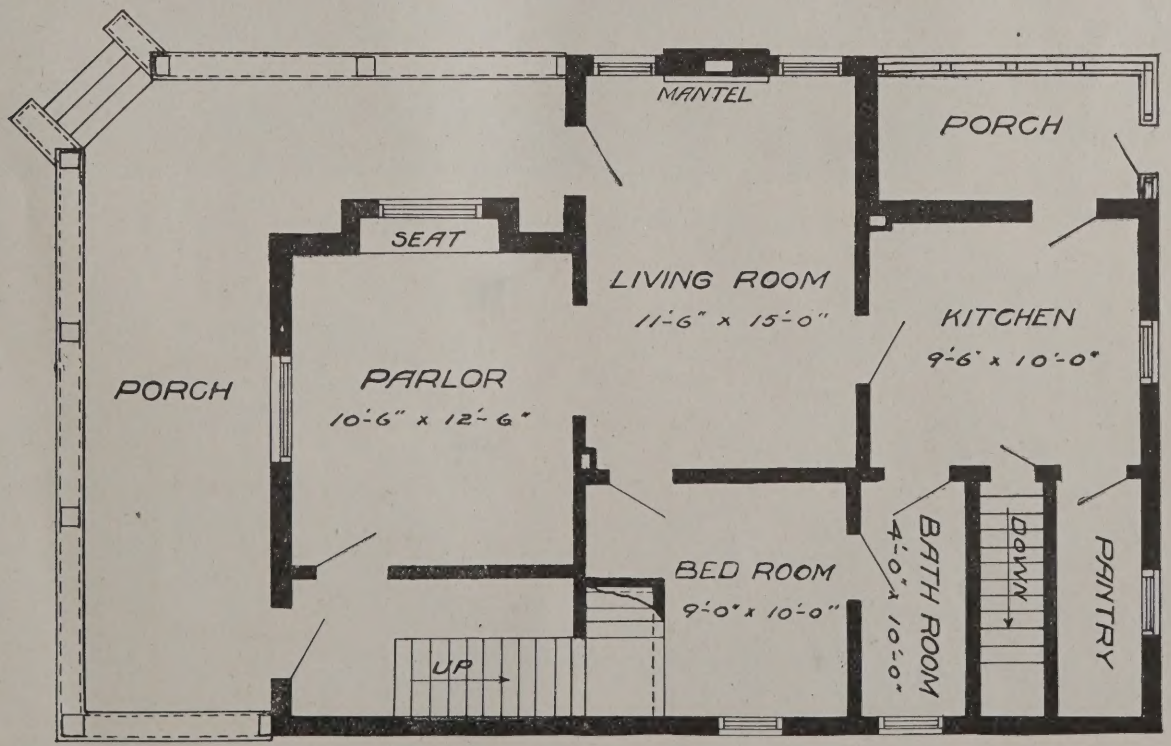
AN ARTISTIC "FEW STEPS" BUNGALOW.

This building was designed particularly for the housekeeper who wishes to "save steps". The rooms are not big, but so conveniently arranged that they give all the freedom of a much larger building. The design is such that it makes the porch a great out door living room, as it can readily be made to afford all the privacy required.

Two styles of blocks are used in this bungalow. The main body is constructed of the rock face Miracle block without margin, interspersed with broken ashlar design to lend variety, producing a very pleasing effect.

Please note that both chimneys are constructed of Miracle chimney blocks and are in keeping with the general design.

The shingle gables and heavy overhanging roof, stained brown in contrast with the natural cement color, gives the building a prominence and artistic character.



SOME SCHOOL HOUSES

School Building of Miracle Blocks, Fort Worth, Texas.

AT FORT WORTH TEXAS 2 SCHOOLS

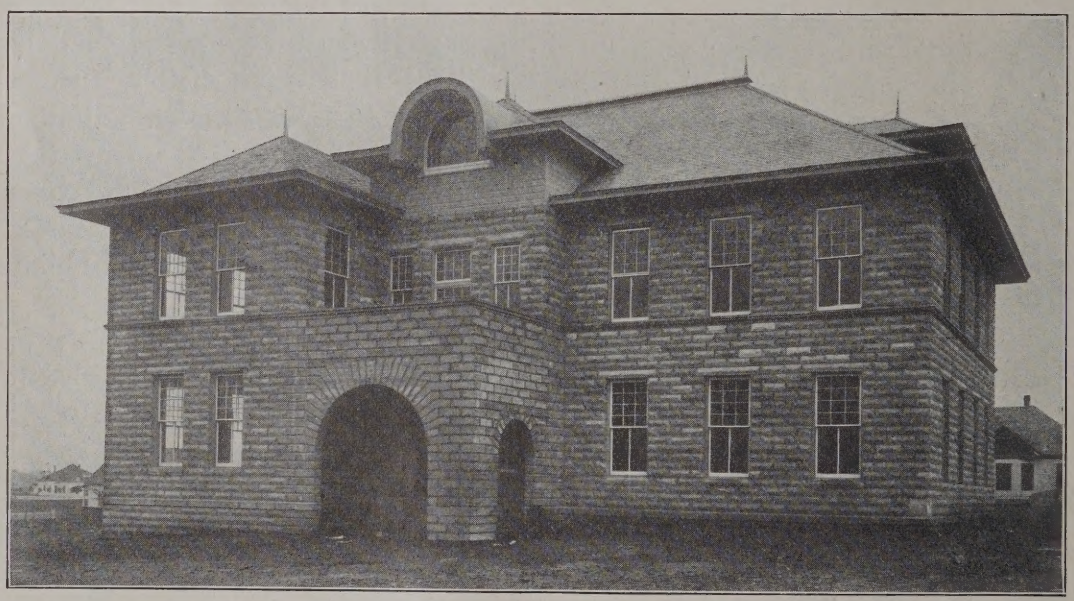
Attest the Public Approval of the Miracle Block for Public Buildings.

The upper building had been erected about one year, when another new school building was required. The School authorities solved the problem by ordering another building like the first. Note how nearly alike these buildings are.

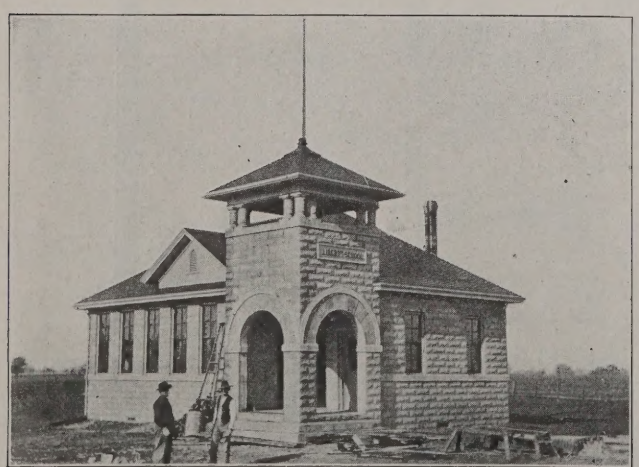
For a typical large School House see page 5

DISTRICT SCHOOLS

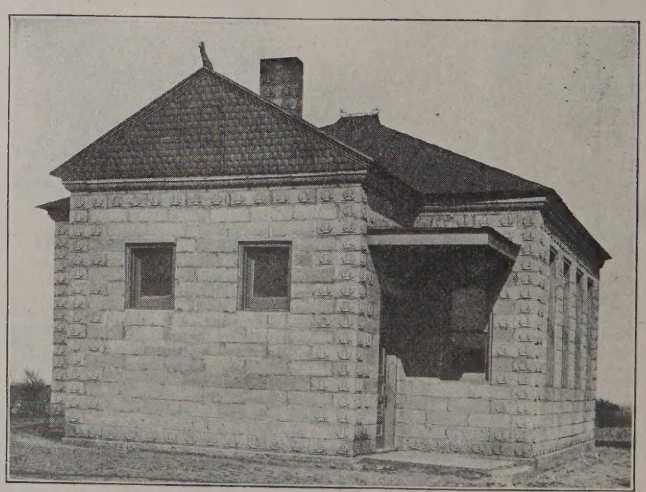
In recent years, the School Directors of the District Schools have sought to build schools that combine architectural beauty, and pleasing outlines with the primary consideration of health, comfort and convenience. The use of the Miracle Block in the two buildings at the bottom of this page shows how well this has been accomplished in these instances. In the hands of a builder of taste, a building of concrete blocks can be designed to equal any building material extant and at a great saving in cost.



Polytechnec School Building of Miracle Blocks, Fort Worth, Texas.



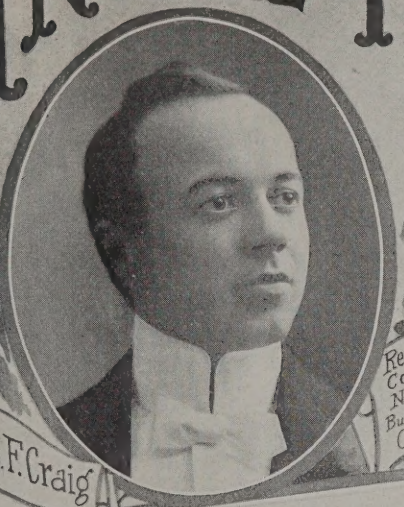
School at Lodi, Col., Perrin Bros., Builders.



School at Bethany, Mo., J. H. Friend, Builder.

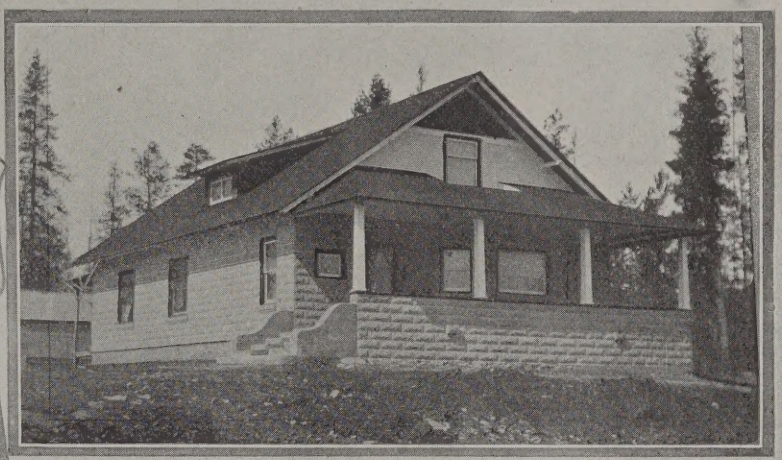
IN THE HEART OF THE TIMBER

It will seem incredible that Concrete Buildings can be erected with profit in the country where the best timber in the world is produced. Mr. Charles F. Craig, banker at Newport, Wash., has been operating a Miracle Concrete plant at that place for two years and has since established another Miracle plant at Spirit Lake, Idaho.

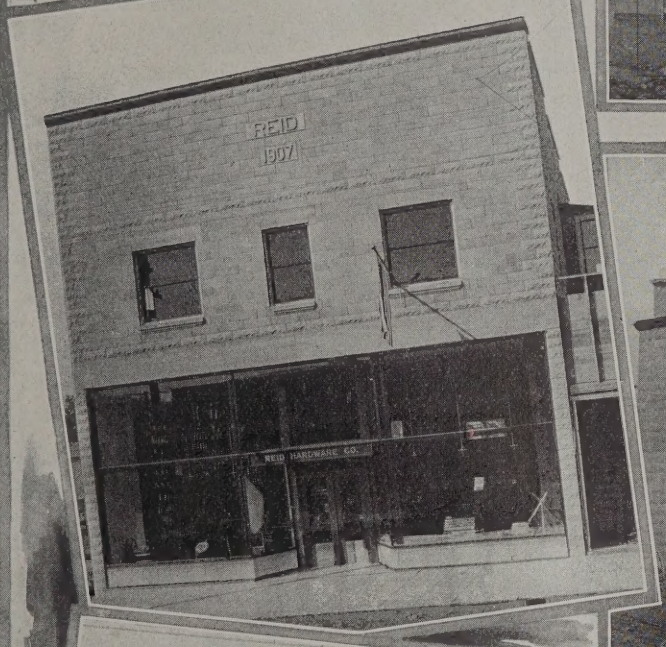


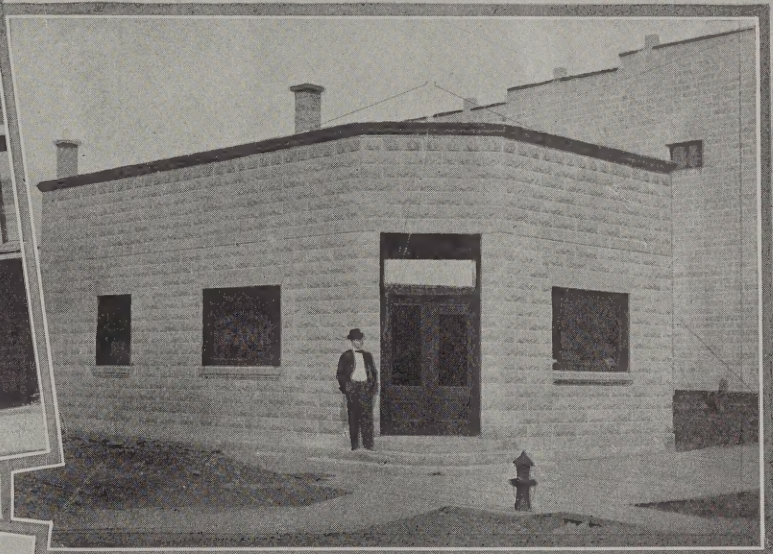
Chas. F. Craig

Reid Hardware Co. Building Newport, Wash. Built by Chas. F. Craig Cost $5500.



Residence of Chas. F. Craig, Newport, Wash.—Cost $4000





First National Bank of Newport, Wash. Cost $1700 -Built by Chas. F. Craig-

Farmers Co-operative Store Newport, Wash. Cost about $4500 Built by Chas. F. Craig.

Maccabee Building-Roseburg, Oregon

Arcade, N, Y.

AFTER 2 YEARS

Spokane, Wash., Dec. 21, 1906.

Miracle Pressed Stone Co., Minneapolis, Minn.

Gents:—After over 2 years experience testing Block Machines and marketing their products, we find that the Double Air Space Block is the block that nine-tenths of the people want, Its superiority over the single air space block is recognized by all.

We have tried a number of machines, all claiming to make a better, a cheaper as well as more blocks in the same time than could be made on the Miracle Machine. So far we have found no machine to equal the Miracle in speed, and the block made on Miracle Machine is the only perfect block made. We have two teams of three men each who will mix and tamp by hand, water and carry out on an average 60 blocks per man per day of 10 hours.

Yours for the Miracle Block,
SPOKANE CONCRETE CO.,
D. F. Strobeck, Manager.

FROM FAR-AWAY CANADA

Weston, Ont., May 3d, 1907.

Miracle Pressed Stone Co., Minneapolis, Minn.

Gentlemen:—I built a house of your double air spaced blocks here two years ago, and it has given me good results, without lathing or plastering. It was the first house built here, and a new thing to everybody. A great many thought it would be a failure; but instead, it has been a decided success. I have a cellar kitchen papered on the block without any plastering. It has been on two winters, and there is not a particle of damp on it, nor a stain on the paper, and as the proof of the pudding is the eating of it, any person that wants to know anything about double air spaced blocks, I show them over my house. So great was my opinion of them that I papered all over my house, upstairs and down, of the most delicate paper, and there is no stain on it to-day. People are coming for thirty miles to see it.

Weston P. O., Ontario, Canada. Yours, WM. FOSTER.

AFTER 4 YEARS

Spokane, Wash., March 16th, 1908.

Miracle Pressed Stone Co.,
Minneapolis.

Gentlemen:

Yours of March 11th received, and we are pleased to acknowledge receipt of your much expanded new catalog. There are perhaps a few things shown therein that we will shortly require.

Regarding the cut it is the exterior corner, 9″ block shown on page 20, H 62 that we want.

Our business is steadily increasing, and up to the present time this year, is more than three times what it was for the same period last year.

Yours truly,
SPOKANE CONCRETE CO.
B

THE NEWS FROM MAINE.

Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentlemen:—I purchased a Double Air Chamber block machine, Exhibit "A", from you a short time ago, and am so highly pleased with it that I cannot keep from writing you. I notice in your catalog that a great many purchasers of this outfit state that they have found the machine exactly as represented, and that they are doing a nice business, and I wish to go on record also in stating that I would not trade the Exhibit "A" outfit for making the Miracle Double Air Chamber block for anything ever devised in the concrete block business.

Any time that I have an opportunity to recommend your machine, you can rest assured that it will be impossible for me to speak too highly for it.

Yours very truly,
(Signed) S. S. KIMBALL,
Bangor, Me.

W. J. Henneux, Plattsburg, N. Y.

Foundry, Office and Pattern Room, Danbury, Conn.

Incorporated

The Marshville Pressed Stone and Brick Co.,

MANUFACTURER'S OF

CEMENT BLOCKS AND BRICK.

Capital Stock $8,000.00

Marshville, Wis., April 28th, 1908.

Miracle Pressed Srone Co.,
Minneapolis, Minn.

Gentlemen:—Please be so kind and send us the balance of Exhibit "A" for One Hundred Dollars as per agreement of last spring when I bought the first part of Exhibit "A". Also send us 40 lbs. of the Medusa Compound for $4.80. Please be so kind and ship as soon as possible. We are in need of the above mentioned.

Respectfully,
AUG. J. KIPPENHAHN, Sec'y.

Ordered part of Exhibit "A" in April 1907. Was successful and ordered balance of Exhibit "A" April 28, 1908, as per above.

Paxton, Ill., Jan. 21, '08.

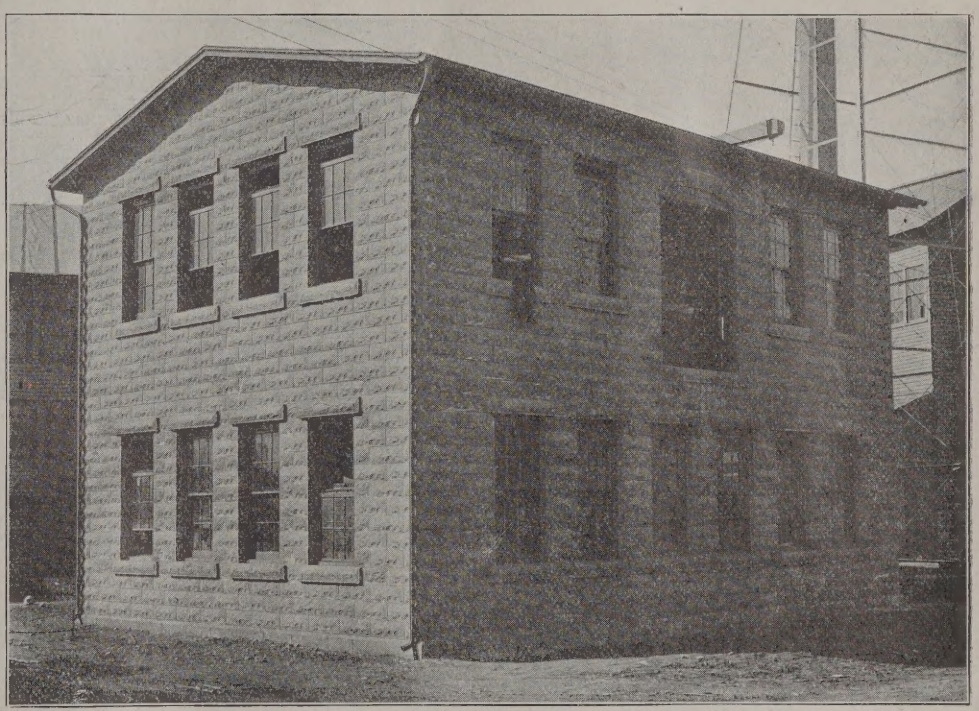
Miracle Pressed Stone Co., Minneapolis.

Dear Sir:—I intended to write you before, but I never got around to it.

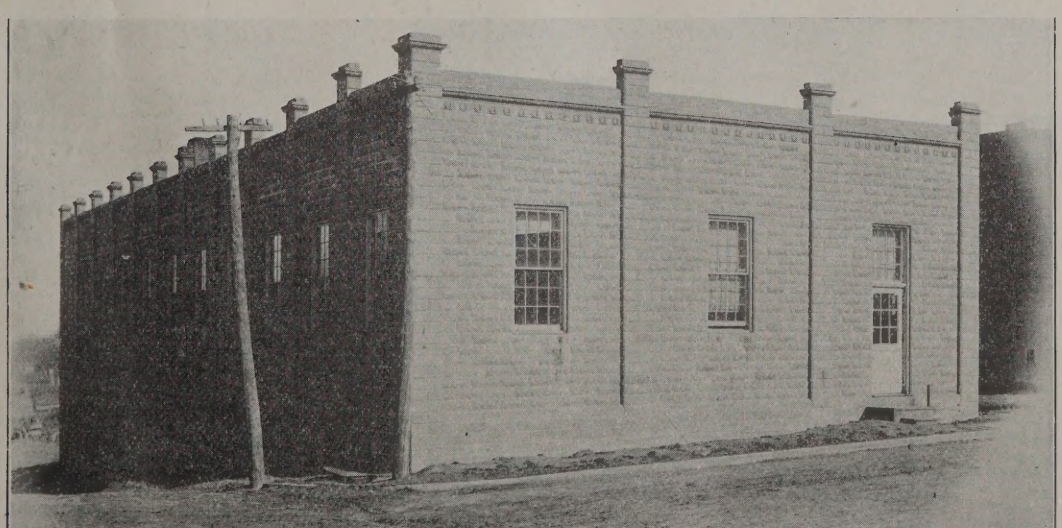
We moved into our new home Dec. 23d '07 and are becoming better pleased with it the longer we are in it. One thing we have found out and that is we burn a whole lot less coal than we ever did in a frame house. When we were making the blocks I had several people ask me in surprise if we were going to build our whole house of blocks. They had an idea it would be damp. Well it would have been if we had made our blocks like the other manufacturers in this town are making theirs. But we haven't noticed any dampness and it is only a few hours after a rain when the outside of our house is dry while the other blocks take about a week to dry out. I was up to Watseka a few weeks ago and saw a block house up there made out of blocks made on a (———) machine. It had rained a few days before and the house was still wet. Everybody thinks my blocks are the best they ever saw and I believe I will be able to do a good business this year.

Say I'd like to have one of your new catalogues with a description of your new machine. I saw the picture of it in the Cement World. Thaking you for past favors, I am,

Yours respectfully,
FLOYD E. STRINGER.



Foundry, Danbury, Conn.



McDonald Garment Factory, Maryville, Mo.

Tucson, Arizona, Feb. 17, 1907.

Miracle Pressed Stone Co.
Minneapolis, Minn.

Gentlemen:—

Your cube mixer mounted on trucks with engine, brick machine and sewer pipe molds have arrived, and gives perfect satisfaction. Have had experience with several concrete mixers but the "cube mixer" surpasses them all.

Your brick machine does more than you claim for it. Two men at the machine turned out 1000 perfect brick in two hours and 20 minutes. Made 15. ft of 8 inch sewer pipe in 1 hour and 30 minutes. Have a contract for several hundred feet. Please ship us your double air space block machine at once.

Very respectfully,
LUNSFORD & WAKEFIEl D
Tucson, Arizona.

Nolin, Ky., March 23rd, 1908.

Miracle Pressed Stone Company,
Minneapolis, Minn.

Gentlemen: -

The outfit bought of you by me was received in due time and in good condition. I set it up this morning and made some sample blocks. It works to perfection.

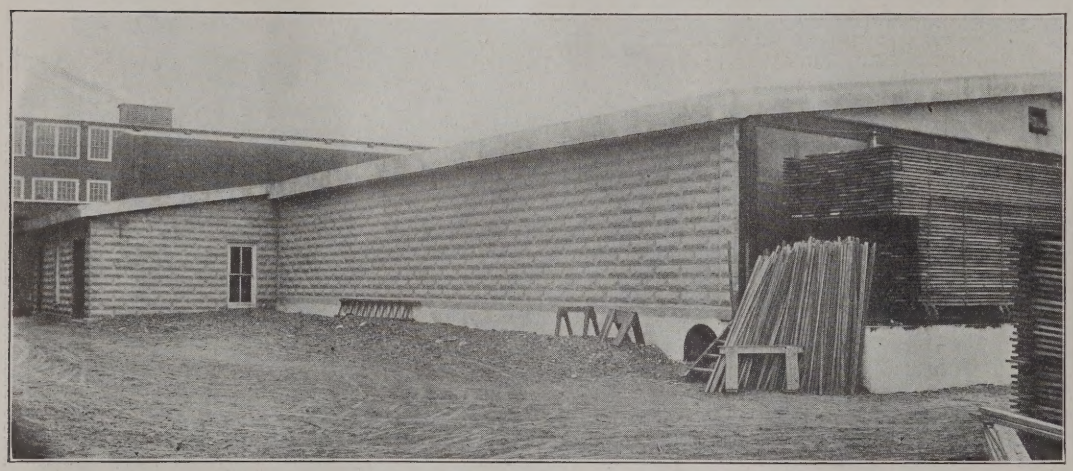
Please to find enclosed 50 cents in stamps for which send me cut like enclosed copy, as per your letrer of the 13th inst.

What would be your price on an outfiit to **make window and door sills and headers.** I will have to get one of them this spring.

Wishing you success, I am,

Very truly yours,
W. W. GABB.

Fox River Packing Co., Aurora, Ill.



Dry Kiln, Manitowoc, Wis.

Palatka, Fla., April 21, 1908.
Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentlemen:

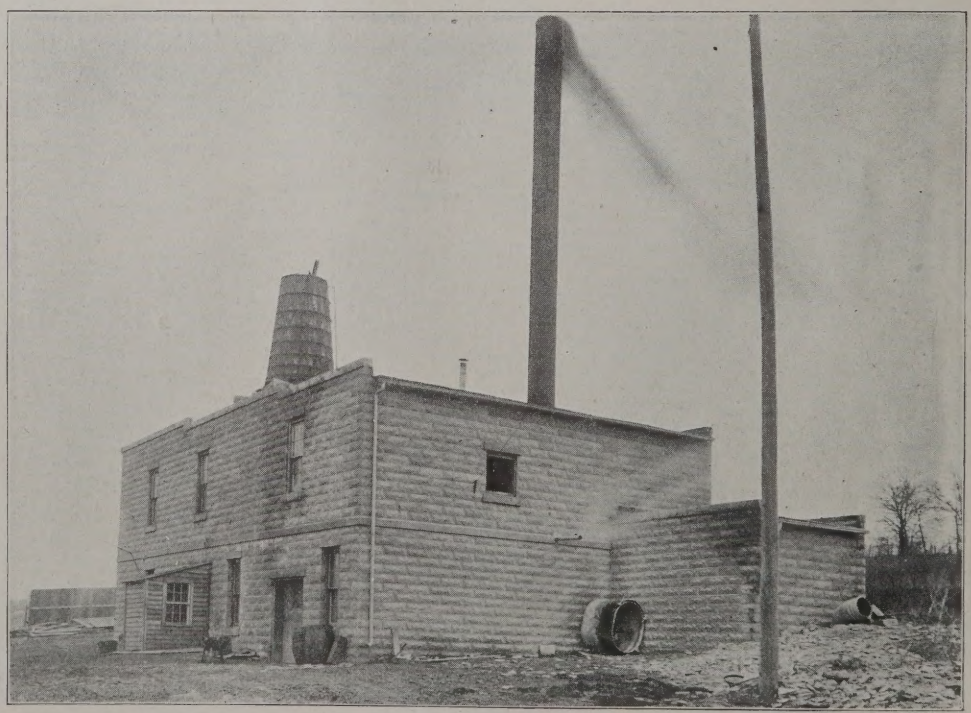
Will you please send me one of your catalogs? I have been and am superintending the plant at Palatka (your Exhibit "A" machine). Have put up a nice business block, and am now making stone for a church. I made several thousand stone and shipped them to Lake Benton, and am superintending the building. There is another machine here, but the Miracle has put it out of business as far as building blocks go. We are using your brick machine, and are making a fine brick. Yours truly,

(Signed) O. HAMMOND,
Palatka, Fla.

Anamoose, No. Dak., Dec., 30, 1905.
Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentlemen:—This residence was built of Miracle Concrete Blocks made by ourselves and for the occupancy of W. D. Frankhauser, but is not completed, as you will see on the picture, the cornice not on and the finish of the inside not complete. It is 25 by 39 feet with the bay window running full height. It contains a basement of the full size. There has been a hot water plant installed with ten radiators. There is a cistern with 160 barrel capacity and a well with windmill, which pumps water into a fifteen barrel tank in the attic. The house is fitted with a bath room and has hot and cold water throughout, together with a complete sewer system, which makes it as modern a house this side of the Twin Cities as we know of. The upper floor is finished in fir and pine, while the first floor is finished in red oak. As regards frost, as soon as we had the hot water plant in operation, we noticed no frost whatever on the walls, and find the house to be the warmest we have ever lived in, notwithstanding that we have no storm windows on at the present time.

Respectfully,
(Signed) FRANKHAUSER BROS.



Cogers & Co., Rendering Works, Aurora, Ill.

Syracuse, N. Y. March 4, 1908.
Mr. A. S. Wemple,
Eastern Sales Manager,

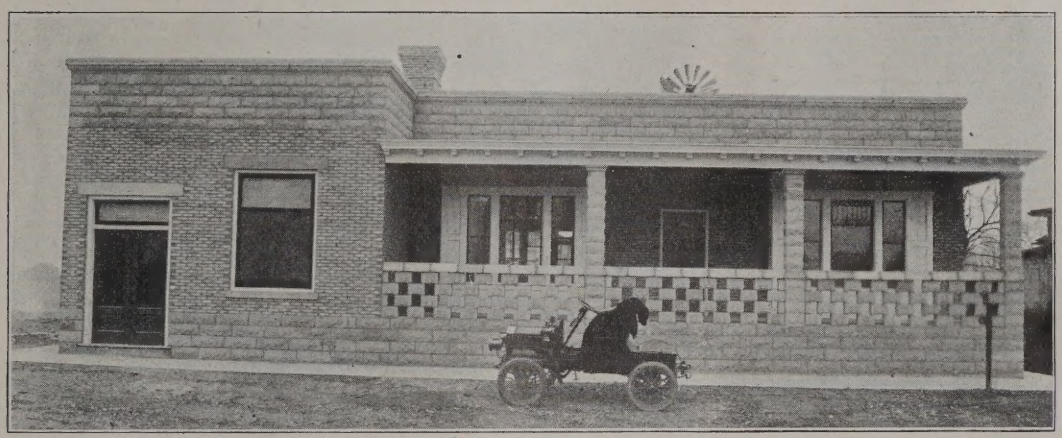
Dear Sir: In regard to our experience with the Miracle More Money Molds, I am pleased to state, that some three years ago we launched our outfit, Model A, and have been turning out a first class block and in large quantities ever since and our molds are in good order and in condition to turn out many thousands more.

With four men I am turning out 225 blocks per day, 1350 per week, and we do not work over eight hours per day. Our block meets with the warmest reception wherever exhibited, and if some other concern is not in on the ground floor with some special pull, we usually land the contract. Our Jamest St. school is considered the finest block job in this part of the country.

Wishing you the success which you so thoroughly deserve, I am,

Yours very truly,
EDWIN C. IDE, Manager.
Onondago Pressed Stone Block Co.
Syracuse, N. Y.

Flat Building, Lincoln, Neb.



Bank and Residence, Wm. McFarlane, Blencoe, Ia.

Sterling, Colorado, May 4, 1907.
Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentlemen:—We have in active use your Block, Brick and Tile Machines, and they are entirely satisfactory in every respect.

We have other machines which have not proven satisfactory, and which we have discarded.

We consider your machines the best and most practical of any on the market.

Yours respectfully,
Sterling Cement Construction Co.,
By Wm. Kaepernik.

March 31, 1908.

Please ship at once
1—10 in. Tile Mold
1—12 " " "
1—10 " Top Ring
1—12 " " "
20—10 " Bottom Rings
20—12 " " "

WM. KAEPERNIK,
Sterling, Col.

IOWA STATE COLLEGE AGRICULTURE AND MECHANIC ARTS.

Civil Engineering Department.
Ames, Ia., Sept. 28, 1904.
H. L. Munn & Son, Ames, Ia.

Gentlemen:—The following are the results of the crushing tests of the Miracle Concrete Building Block sent out by you some time ago. Specimens used were half blocks. They were imbedded in Plaster of Paris and allowed to set in the testing machine for 12 hours.

Specimen.	Size of Specimen	Area Crushed, Square inch.	Ultimate Load.	Ultimate Bearing Strength, Tons per.
A	8x9x13	117	70,500	43.3
B	8x9x12	108	89,000	59.3
*C	8x9x12	108	101,000	87.3
*D	8x7x12	84	101,000	86.6

Specimens *C and *D failed to crush at full power of the machine, 101,000 pounds.

Block A was one week old, Block B two weeks old, C three weeks old, and Block D was four weeks old, when they were sent out to be tested.

Very truly yours
T. H. MacDONALD.

FACTOR OF SAFETY OF TWENTY

This shows by using an 8x12x24 in. regulation size MIRACLE Double Air Space Block in a wall of an 8-story building estimating the weight of the wall and the maximum floor load you have a factor of safety of 20 an excess of 15. As architects and building laws require a factor of safety of only 5, the Miracle Wall would have four times the amount required.

Office and Residence, Dr. A. Healy, Middlesboro, Ky.

Westfield, N. J., May 6, 1907.

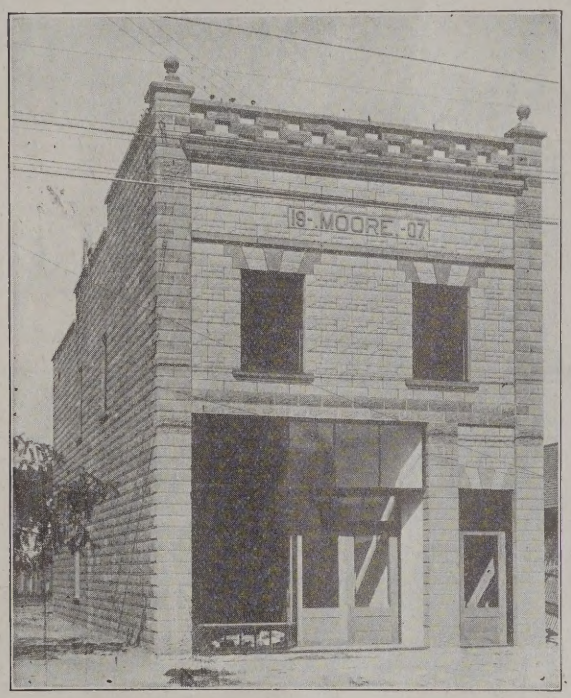
Messrs. Arthur N. Pierson & Co., Eastern Agents Miracle Pressed Stone Co., No. 1 Park Row, New York City.

Gentlemen:—In reply to your inquiry as to how I am getting along in the manufacture and sale of Miracle Blocks, would say that I have had no difficulty in disposing of my entire production, in fact last fall when I closed for the winter season, I had on hand about 7,000 blocks and sold them all in about 3 weeks' time and could have sold as many more if I had them in stock; not having them, I was of course obliged to turn down the orders. I wish I had 10,000 or 15,000 blocks on hand now to start my spring business with, as I am behind on my orders and the prospects for future business is certainly very good.

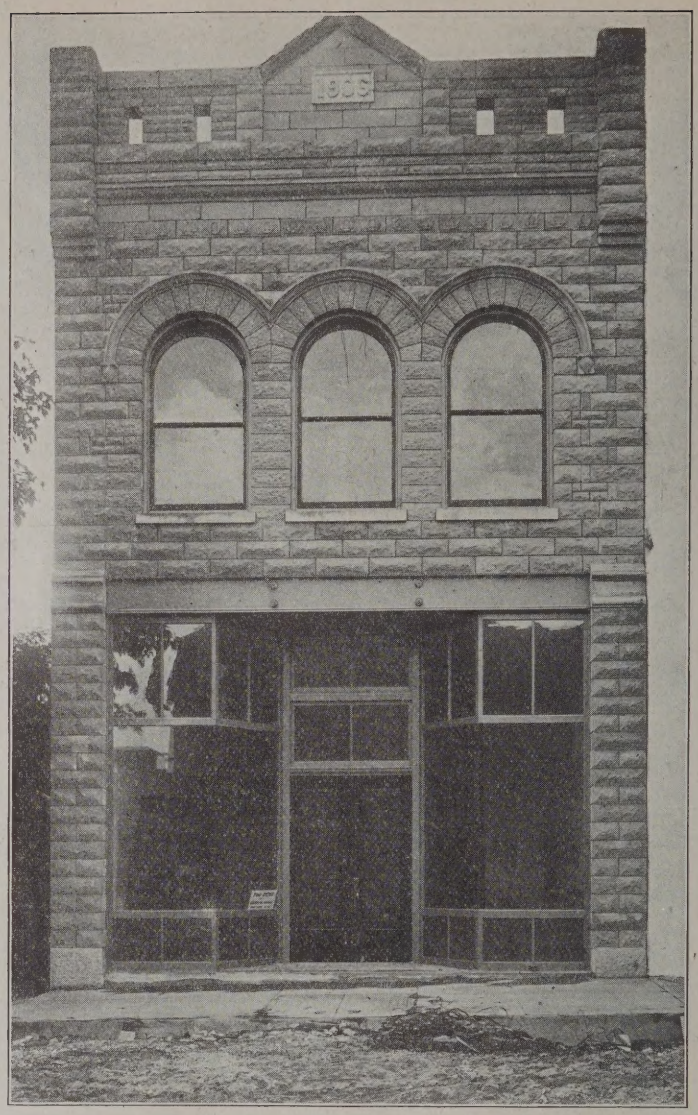
I anticipate putting up a building to make blocks in this winter, in order to make blocks the year round. The Miracle Block is the only one used in this section, although there are several others who have tried to get in here, but the builders appreciate the merits of the Double Air Spaces, and are willing to pay more than for the single air space blocks.

Yours truly,

E. F. GILBY.



Spokane, Wash.



Vancouver, Wash.

Clay Center, Kan., Dec. 9, 1906.

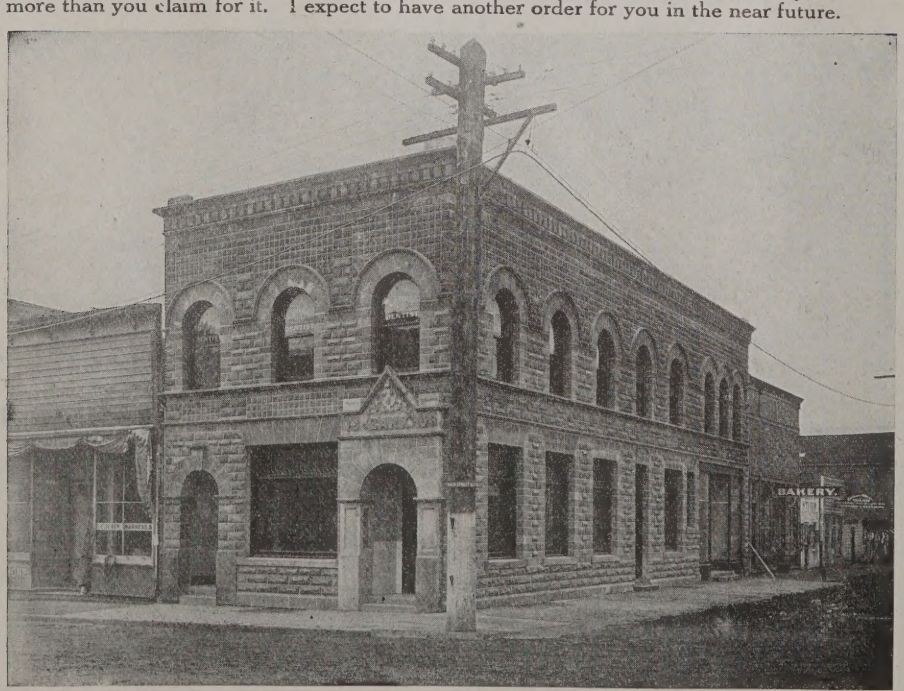
Miracle Pressed Stone Co , Minneapolis, Minn.

Gentlemen:—Enclosed please find $2.25 for which please send me a book of plans and your book on the uses of cement. I also want a cut of the rock face block for advertising purposes. Do you have it, and at what price?

Since purchasing your machine a year ago, I have been keeping it busy, and am free to say it has given entire satisfaction, and is more than you claim for it. I expect to have another order for you in the near future.

Yours respectfully,

L. L. LONG.



Bank Building, Vancouver, Wash.

Central City, Ky., April 6, 1907.

The Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentlemen:—We take pleasure in stating to you that we believe that we hold the record on block making with your machine. We average about 150 twelve inch blocks per nine hours. On April 4th we made 170 12x24 inch blocks in 8 hours and 30 minutes, working four men. We expect to put out, on an average, 150 twelve inch and 200 nine inch blocks each day with crew of seven men.

Your machine has certainly built us up a nice business and is satisfactory in every respect.

Yours truly,

CENTRAL CONCRETE CO,

Per T. Q. Fortney

Fortney & Fortney,

Central City, Ky.

Kindly fill the following order:

1 Ten-Brick Machine complete with all fancy plates.

1 Ex. C. Porch Column outfit.

Furniture Store, Decherd, Tenn.

"DOUBLE AIR SPACE KILLS COMPETITION."

Saskatoon, N. W. T., May 25, 1906.

Miracle Pressed Stone Co., Minneapolis, Minn.

Gentlemen:—Miracle Blocks can be manufactured and placed in the wall at a small cost as compared with the old style two-man block, while the Double Air Space feature of the "Miracle" practically kills competition. We are turning out from 225 to 275 blocks per day of ten hours, and every block perfect. We are well satisfied with the "Miracle Machine."

Yours, The Saskatoon Cement Block & Construction Co, Limited.

Saskatoon, N. W. T., March 22, 1907.

Kindly make prompt shipment of the following:
1 Broken Ashlar plate
Full attachment for making 8″and 16″ rock face blocks on Exhibit "A."
1 Exhibit "B" outfit less interior angles.
3 Regular Block Lifters
3 16″ Block Lifters

Saskatoon Cement Block Co.,

Saskatoon, N. W. T., March 30, 1907.

Ship us by express at once
1 Cornice plate bent to radius of 5′–2′
1 Freize plate bent to the same radius.

Saskatoon Cement Block & Construction Co.

J. W. Bowen. G. H. Wortendyke.

ERIE PRESSED STONE BLOCK COMPANY

Manufacturers of the Miracle Double Air Space Concrete Building Blocks
FROST AND MOISTURE PROOF

Plant
Bowmansville,
N. Y.

Buffalo Office 333 Elk St., June 3, 1908.

Miracle Pressed Stone Co, Minneapolis, Minn.

Dear Sirs:—We are getting along in fine shape; have put the single air space people at a standstill in Bomansville; have just secured another contract for a cottage, and have got nicely in operation and can see business coming our way. We can't help it for we have got the only building block.

I wish you would write me up or suggest a good local add, arrange it so I could use my cut of the block.

Yours very truly,
GEO. H. WORTENDYKE.

NOTE—The Miracle Pressed Stone Co., will gladly furnish free to our customers, suitable sample advertisments prepared by an experienced advertising man.

Frankhauser Bros., Anamoose, N. D.

Store Building, Leeds, N. D. Built by Ole Moe.

Size 50x135 feet. Total cost $20,000. This cost includes entire finishing of the highest order. The photograph does not do the building full justice as it was taken before fully completed.

Thief River Falls, Minn., June 9, 1907.

Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentlemen:—We never had trouble with walls leaking at the joints, as we see to it that good mortar is used and all the joints well filled.

Cement Building Blocks are certainly all right, especially the double air spaced, but they must be made right and cured right. That has been our whole aim, and we have had good success, and all the buildings we have put up have given good satisfaction.

We have both the single and double air spaced machines but use only the Miracle's Double Air Spaced for buildings of all kinds.

Trusting that you are enjoying a nice business this season and wishing you continued success, we are,

Yours very truly,
Thief River Falls Cement Brick Works,
A. S. FASEL, Manager.

Altamont, Ill., Nov. 29, 1907.

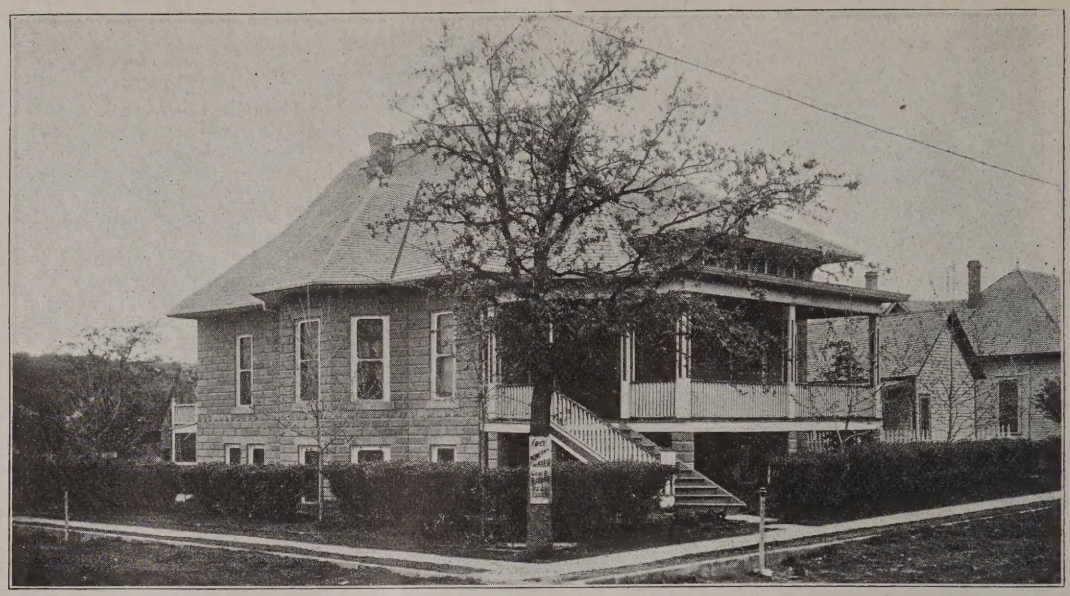
Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentlemen:

I will send you three views of the first block house in Altamont, built by H. H. Bailey, Editor and Publisher of the Altamont News. You will see what he says about the blocks. He is well pleased. The house has a slant roof and a fine finish on the inside and everybody that sees it thinks it is a very nice building. The blocks for this house were made by Chas. H. Seibert, Altamont, Ill., on a Miracle machine.

I commenced the first of April making blocks and was busy with two men all summer. I made two houses and twelve or fourteen foundations and have a good supply on hand for spring trade.

(Signed) CHAS. H. SEIBERT.



G. P. Barber, Mineral Wells, Texas.

Danbury, Conn.

7-28-07.

Mr. O. U. Miracle,

Minneapolis, Minn.

Dear Sir:

Your personal letter to hand and noted. I sent for your catalog because I wanted to see more about your MIRACLE blocks. I have had two stores built out of your Miracle block by the Albany Pressed Stone Co., and am well pleased with the work, as the rock face makes such a pretty front to my building. Miracle Block walls, cement tile floors, steel ceiling, tin roof makes my stores almost fire-proof and had it built Two hundred dollars cheaper than I could have had it built of Brick with wood floor and ceiling.

So you will see why I wanted your catalog.

Respectfully,

C. W. SCOTT,

Albany, Ga.

Nov. 28, 1907.

TO WHOM THIS MAY CONCERN:

This is to certify that after careful study and thorough examination, we decided to build our residence with the Miracle Double Staggered Air Space Block. We are highly pleased with the result. This block is cheaper, than lumber (at least one hundred dollars), warmer, by far more durable, and absolutely moisture proof. Any inquiries will be cheerfully answered.

(Signed) H. H. BAILEY,

Editor and Publisher

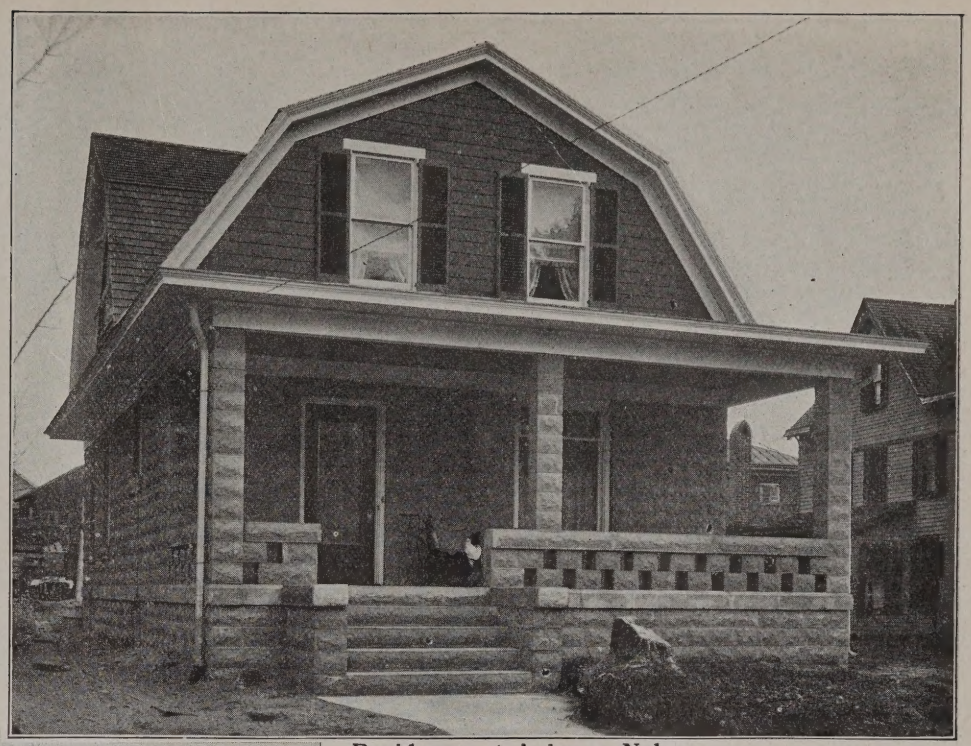
The Altamont News.

G. W. Hazelwood, Mineral Wells, Texas.

Richmond, Va., April, 26, 1908.
Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentlemen:—In answer to your letter of the 22nd, I beg to say that I am getting along fine with your machine, and having the best of success. We are very much pleased with the machine, and we expect to do a fine business here.

Yours truly,
(Signed) GEO. E. GRAY,
Richmond, Va.



Residence at Auburn, Neb.

**Residence of Mr. Perine,
Fulton, N. Y.**

FROM MISSOURI.

Bethany, Mo. May 6, 1907.
Miracle Pressed Stone Co., Minneapolis, Minn.

Gents:—I will say the Cement Block Machines I purchased of you are giving entire satisfaction. The Mixer is just the thing and does the work much better than can be done by hand. The machines are very simple in construction and at the same time are durable and easily managed. After a thorough study of the subject I regard the Miracle Double Air Space Block as the only perfect and reliable one on the market. There are so many blocks, which, in order to secure the proper air circulation have to sacrifice strength and durability to get it. Yours obviate all such objections as they are strongly made and are absolutely frost and moisture proof, which are two very essential qualifications in a first class cement block.

Respectfully, J. H. FRIEND,

Kindly forward to us at once March 27, 1907.
1 Miracle Block Car.
J. H. FRIEND, Bethany, Mo.

Please ship us at once May 16, 1908.
1 Concrete Lawn Vase Mold
1 7" Ball and Base mold.
J. H. FRIEND, Bethany, Mo.

Claremont, N. H., June 4, 1907.
Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentlemen:—We enclose herewith an order for exhibit "M. A." molds and machine complete, also exhibit "G" for sills and caps and reveal mold for box windows.

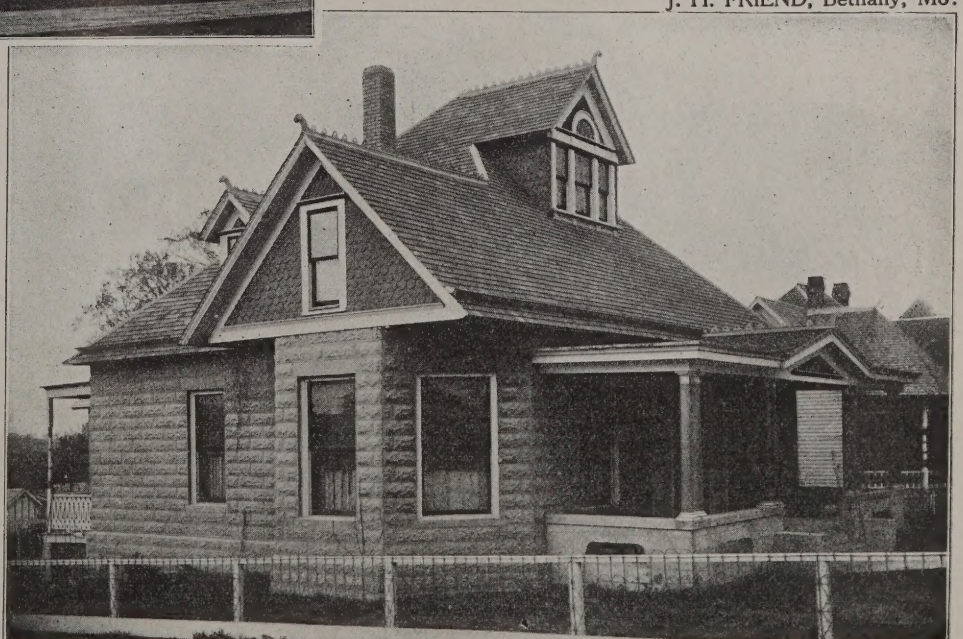
We have formed a company and called it Claremont Cement Block Co. Please ship outfit by freight to that address. This company is formed of D. H. Cushion, E. F. Cushion and W. D. Elmer.

Yours very truly,
CLAREMONT CEMENT BLOCK CO.

Claremont, N. H., April 28, 1908.
Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentlemen:—Please send us the balance of outfit "A" and a 9 inch base.

Yours very truly,
CLAREMONT CEMENT BLOCK CO.
D. H. Cushion, Treas.



Residence of Mrs. T. B. Stephens, Bunceton, Mo.

Union, Neb., May 31, 1907.

Miracle Pressed Stone Co.,

Minneapolis, Minn.

Gents:—I have been using the Miracle Cement Block Machines and mixer for the past three years, and wish to say that they give good satisfaction in every respect. Have put up several buildings of the blocks, and they are very satisfactory in every respect. For foundation work I sell nothing else, although not 100 feet from my plant there is a quarry of natural stone. My patrons find the blocks more satisfactory by far than the native stone or brick, and much cheaper in the wall. I have a demand for all the blocks that I can turn out, and would not think of getting along without my block machines, as they make a valuable adjunct to the lumber yard. I can willingly recommend the Miracle process to anyone contemplating purchasing a Cement Block outfit.

Very respectfully,

W. B. BANNING.

Frank Richards, Mineral Wells, Texas

Residence at Aurora, Ill.

IT IS BEST.

Lexington, Neb.

Miracle Pressed Stone Co., Minneapolis, Minn.

I wish to state that in all cases where quality, appearance and a perfect wall is desired, I find no trouble in getting 5c per block more for the double air space blocks than my friends with a single air space offer theirs, weight and quality being the same. I get about 15 per cent. more for double air space blocks than can be had for single ones. With a mixture that closes all of the voids, there is no trace of moisture on the inside of the wall and no frost spots marking the location of the voids between the various parts of the block. Just yesterday I was in a building having a 12-inch wall built from two-piece blocks, and as there is no internal heat in the building the bonds across the wall could be located by the spots of frost.

I consider your mold much faster in operation than any Automatic Machine in existence to-day, as I have owned one self-closing Automatic Machine.

As for speed I can surpass any automatic made for a ten hour run on 24x8x9. I can build any wall and never cut a block. Three men, a mixer and 2-horse power engine make 200 in ten hours, 78-pound blocks.

(Signed) ROBT. B. SMITH.

McCook, April 15, 1907.

Miracle Pressed Stone Co.,

Minneapolis, Minn.

Gentlemen:

Last May your Exhibit "A" was installed in our works and has been in constant use since. We have the "Hydraulic" and "Peerless" that we were using up until the installing of the "Miracle". We are using it "Exclusive" and are satisfied with it in all ways. Think there is nothing as good as the Miracle.

Very truly yours,

McCook Cement Stone Co.

Aurora, Ill.

Residence, Vancouver, Wash.

Mitchell, Neb., May 5, 1907.

Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gents:—We have just completed a Cement Stone Store Building, 75 foot frontage and 140 feet long. The main part of the store has been up over a year and we have our first complaint yet to make. The Miracle Block is the only block on the market that will stand plastering on the base stone, and resist the frost and moisture.

If we were to build another building, this is the only Block we would use.

Yours truly,
RAYMOND & QUIVEY

Hillsboro, Wis., April 22, 1907.

Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentlemen:—Replying to your inquiry regarding Miracle Molds and the business in general, will say that I have a good bunch of contracts booked with nice prospects for more, notwithstanding the fact that the people are not acquainted with concrete products in the locality.

The molds are working good and the general public favor the Double Air Space Block.

Respectfully, THEO. W. S. COLLINS.

Repeat order from Theo. Collins, 6-6-'07.
Hillsboro, Wis.

1 Exhibit F., 1 9-in Exhibit with plain and ashlar faces and Water table attachments. 1 Ashlar face Exhibit B., 1 Miracle One man Brick Machine.

12-20-'07.

Repeat order from Theo. Collins,
Hillsboro, Wis.

Kindly enter our order at your lowest cash price for 2 Block Cars, 200 feet rail.

2-13-'08.

1 Silo attachment for Exhibit "A" for silos 12' 6" inside diameter, 9" Block.

5-5-'08.

Repeat order from Theo. Collins,
Hillsboro, Wis.

Ship us 1 adjustable Cap Step and Sill Mold.

Chippewa Falls, Wis., May 29, '07

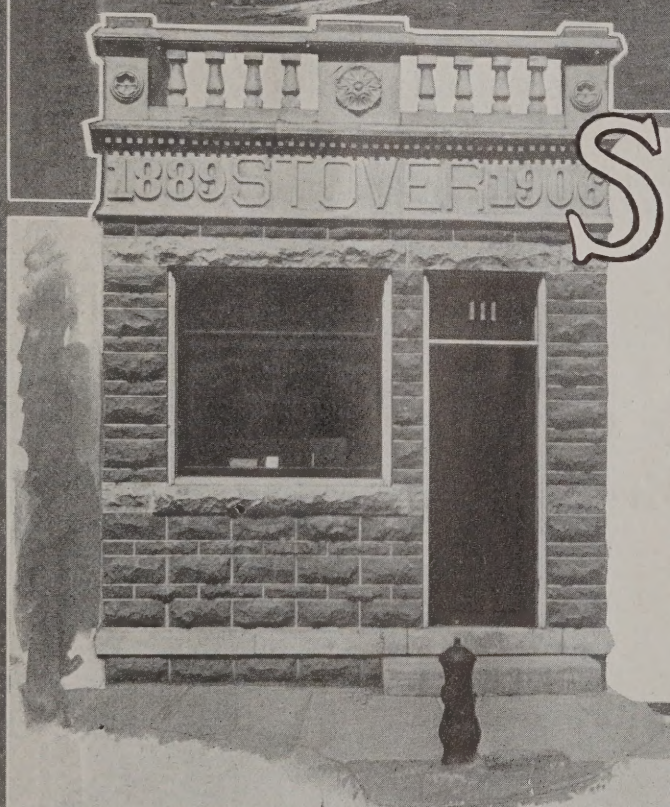
Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentlemen:—In response to your favor, would say that we have made up a great quantity of your blocks. Our experience with them is not extensive, but we have begun to lay them in our new buildings, and our mason's report on them is very favorable. We are now working three machines of your make.

Yours respectfully,
C. W. WILMARTH.
Superintendent

Residence, Vancouver, Wash.

The MIRACLES in the WEST

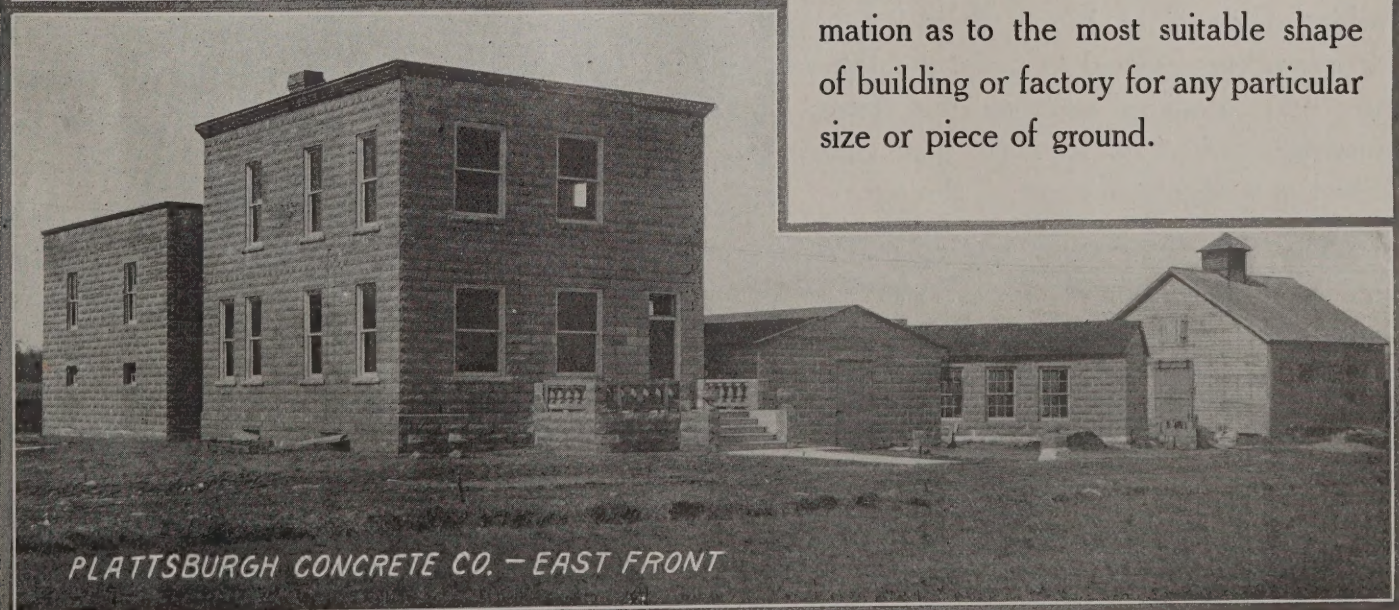


The Plant here illustrated, is constructed and operated by Colonel Lee Stover, Watertown, S. D. This is one of the pioneer block faciories of the West, and Mr. Stover has built this business up until he now is employing a large crew of men in his plant, and during the last season ran day and night. He is also at present engaged in the general construction business, using in the past season twelve different crews scattered throughout the Northwest. All of this shows what energy will do in the Concrete business.

THE MIRACLES IN THE EAST

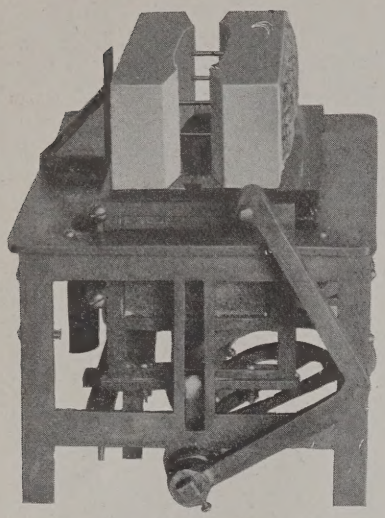
PLATTSBURGH CONCRETE CO. — WEST SIDE VIEW

We will give special attention to submitting designs and giving information as to the most suitable shape of building or factory for any particular size or piece of ground.



PLATTSBURGH CONCRETE CO. — EAST FRONT

The Miracle Combination Block Machine.



Continuous Air Space Equipment

In following out our general policy of manufacturing machines to fit any and all conditions, we desire to call to your attention our combination wet process single air space and continuous air space block machine.

This machine can be changed from one to the other inside of thirty seconds, using same pallets, mold box and cores.

With it can be handled wet, medium, or dry material.

The combination has no hinges or locks to open. The block on it is finished with a gliding movement, the same as a trowel is worked over smooth surface, hence there is no suction to pull the block out of shape or take the material away with the side and end plates. This gliding movement effect cannot be found on any other make of machine.

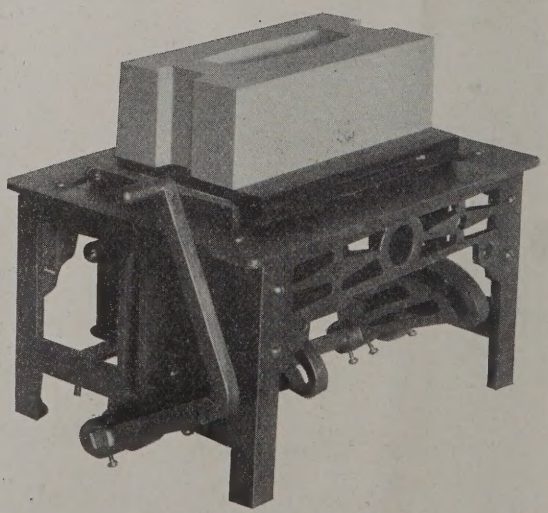
The mold box is all made of iron bolted together as solid as can be made. This makes it absolutely rigid, and impossible to get out of shape or square, thus one is positive that every block made will be perfect. The face plates, both rock and smooth, are all self lockers and unlockers, each one fastened so as to lock lengthwise and crosswise, thus avoiding any chance of getting out of order, or making a poor product.

One movement of lever releases all locks, drops both core and mold box out of sight to bottom of machine, leaving the block free and ready to carry away. Move the lever in the opposite direction to raise mold box and core, drop in your face plate and you are ready for material again; for speed we are willing to put our combination machine against any machine made. When you see the simplicity, ease of operation, and speedy adjustments, you will agree with us. There are no cogs, springs, gears, automatic locks, complicated movements, etc., to clog or get out of order. This machine does not need them; a plain, simple, calm movement does the whole work.

It is either a one- or two-man machine, and can be operated in either case with perfect ease, making blocks 6, 12, 18 and 24 inches long, 8 inches high and 12 inches wide. All plates necessary for return corners, and to make the different lengths, furnished with each machine, in Rock Face. Any other designs, such as tool faces lengthwise or crosswise, broken Ashlar faces, panel faces, can be furnished at a reasonable cost, if desired.

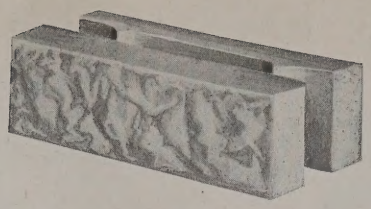
The facts are that in buying one of our combination machines you have several machines combined in one. You have the only continuous air space, drop core machine made, the only two-piece block drop core machine made.

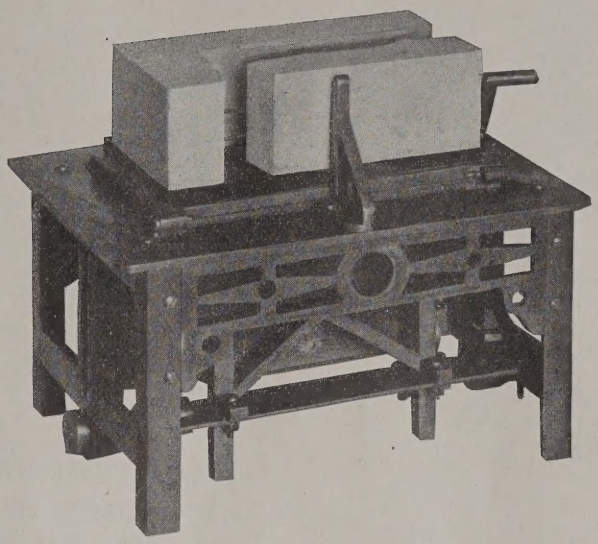
You can make continuous air space block cast in two pieces and tied together with No. 4 galvanized wire, making one whole block to lay in the wall and handle in yard.



Hollow Block Equipment

Makes a Solid Foundation Block





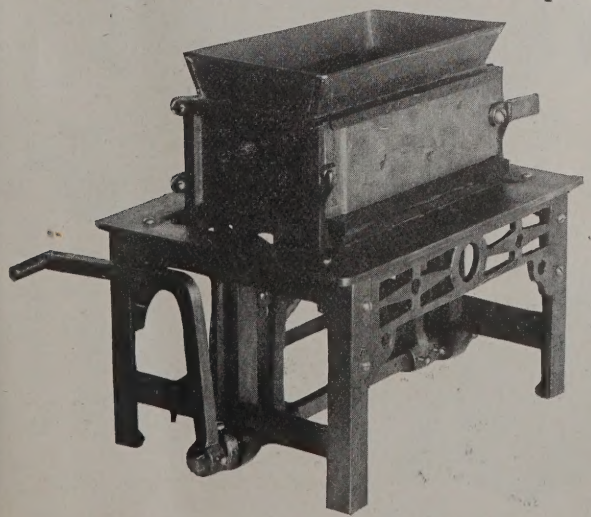
Makes a Continuous Air Space Block

The single air space block made on this machine we guarantee to stand on a standard with any in the market, and as near frost and moisture proof as any single air space block. The same lengths and thicknesses as the other block, and a very successful block for foundations and buildings where the dampness does not make so much difference.

We guarantee, on the Combination you can handle the material as wet as it will stand up, and off-bear, and have every block perfect and smooth. Using wet material requires a great deal less tamping, and you have a far more dense article.

THIS IS WHAT YOU GET WITH EACH ORDER OF A COMBINATION MACHINE

One machine stand, with core, handle and mold box.
One rock face plate for 24 in. long stone, 8 in. thick.
One rock face plate for 12 in. long stone, 8 in. thick.
One rock face plate for 6 in. and 18 in. long stone, 8 in. thick.
Two dividing plates for half, and 2 for quarter and three-quarter, 8 in. thick.
Two ends for continuous air space and one for return corner 8 in. thick.



One return corner, 8 in. thick.
One dovetail filler for return corner. One of same for smooth block.
Three fillers for cores where wires and plates go.
One end for hollow block 8 in. thick.
One pallet rest for 8 in. thick block.
Two galvanized iron facing plates for richer material.
Two iron tampers, one galvanized iron hopper.
Two sample pallets and 50 anchores for ties.

Extra plates for making blocks 9 inches wide, $7.50

$95.00, f. o. b. cars, Minneapolis.

MIRACLE ADJUSTABLE FACE-DOWN BLOCK MACHINE.

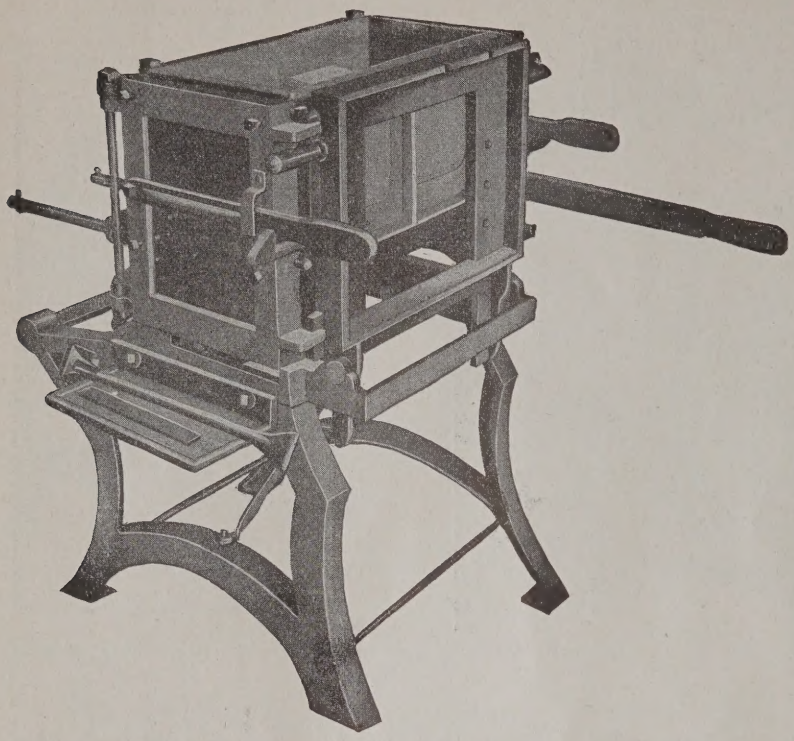


Fig. 1.

Six widths 2-4-6-8-10-12 inches.
Three Lengths 4-8-16 inches.
Two complete Sets Face Plates, Your Choice. (See page 20)
(One Rock and One Plain Face furnished, if not otherwise specified.)

PRICE $74.00 COMPLETE

F. O. B. Factory at per following lists of parts.

Points of Merit that place this machine ahead of other Face Down Block Machines:

More complete for half the money.
Well-made—Simple—Rapid.
A one man machine.
The only machine adjustable for making Veneer—partition, sidewalk and hollow building blocks.
Operator does not have to move out of his position in front of the machine from the time the tamping is begun until the block is finished. (See arrangement of core lever and end door handles.)
Fig. 1 and Fig. 2 showing machine open after block is made.
No cogs. No gears. Cores are mounted on steel shaft and do not rub on back plate when withdrawing them.
The 8x8x16 block costs to manufacture from 5 to 7c.
Sells for 15c or more.
Equals 15 brick which would cost at $12.00 per M laid in a wall 18c.

"B" EQUIPMENT FOR ADJUSTABLE 16-INCH FACE DOWN MIRACLE CONCRETE BLOCK MACHINE

For making hollow blocks 8x8x16, 8x10x16, 8x12x16; also veneer or Two-piece blocks 2x8x16, 4x8x16 and 6x8x16 complete with rock and plain designs.....$74.00.

1 Plain Front Design No. 2.
1 Plain Front Design No. 2L, for making one-half and two-quarter hollow blocks.
1 Right Hand Plain End Door Design No. 23.
1 Left Hand Plain End Door Design No. 23.
1 8-inch Right Hand Rock End Door Design No. 21.
1 8-inch Left Hand Rock End Door Design No. 21.
1 10-inch Right Hand Rock End Door Design No. 21.
1 10-inch Left Hand Rock End Door Design No. 21.
1 12-inch Right Hand Rock End Door Design No. 21.
1 12-inch Left Hand Rock End Door Design No. 21.
1 Right Hand End Plate with recess to core end of 8x8x16.
1 Left Hand End Plate with recess to core end of 8x8x16.
1 Right Hand End Plate with recess to core end of 8x10x16.
1 Left Hand End Plate with recess to core end of 8x10x16.
1 Right Hand End Plate with recess to core end of 8x12x16.
1 Left Hand End Plate with recess to core end of 8x12x16.
1 Right Core for 8x8x16.
1 Left Hand Core for 8x8x16.
1 Right Hand Core for 8x10x16.
1 Left Hand Core for 8x10x16.
1 Right Hand Core for 8x12x16.
1 Left Hand Core for 8x12x16.
1 Back Frame adjustable for cores either 8, 10 or 12 inches wide.
1 Right Hand Back Frame Space Closer for making blocks 10 and 12 inches wide.
1 Left Hand Back Frame Space Closer for making blocks 10 and 12 inches wide. (These two Space Closers are not used for making blocks 8 inches wide.)
1 Front Frame.
2 Division Blades for 8x8x16 half and quarter.
2 Division Blades for 8x10x16 half and quarter.
2 Division Blades for 8x12x16 half and quarter.
2 Strippers for blocks.
1 Adjustable Plate for making plain gable blocks.
1 Steel Striker.
1 Concrete Block Carrier with handles.
1 Flat Square End Concrete Block Tamper.
1 Cast Iron Pallet for 8x8x16.
1 Wood Pallet for 8x8x16.
1 Cast Iron Pallet for 8x10x16.
1 Wood Pallet for 8x10x16.
1 Cast Iron Pallet for 8x12x16.
1 Wood Pallet for 8x12x16.
1 Right Hand Joist Block Plate.
1 Left Hand Joist Block Plate for blocks.
1 Steel Plate for forming inside corners of 8x8x16, 8x10x16, and 8x12x16 hollow blocks.
1 "5" Wrench.

If the rock and plain sets of designs are not wanted, we will give the buyer his choice of any other two sets of designs that we have, in place of the rock and plain sets shown in above list, otherwise the designs we illustrate are extra. Front 8x16 designs cost $3.00 each and any end design $1.50.

(PALLETS EXTRA.)

8x16 Cast Iron Pallets 25c each or $25.00 per hundred f. o. b. factory.
10x16 Cast Iron Pallets 30c each or $30.00 per hundred f. o. b. factory.
12x16 Cast Iron Pallets 35c each or $35.00 per hundred f. o. b. factory.

We can furnish an iron pattern pallet all ready for the sand at $5.00 per width, so you can secure pallets at your nearest foundry.

Circle or Silo Block designs, any radius, are $3.00 each, extra.

The Octagon Bay Window Attachment is adjustable for blocks 8, 10 and 12 inches wide and is furnished complete for any one style of design at $4.00. The Rock and Plain Octagon costs $8.00.

The Miracle Machines make a block that allows for ¼ inch Mortar Joint.

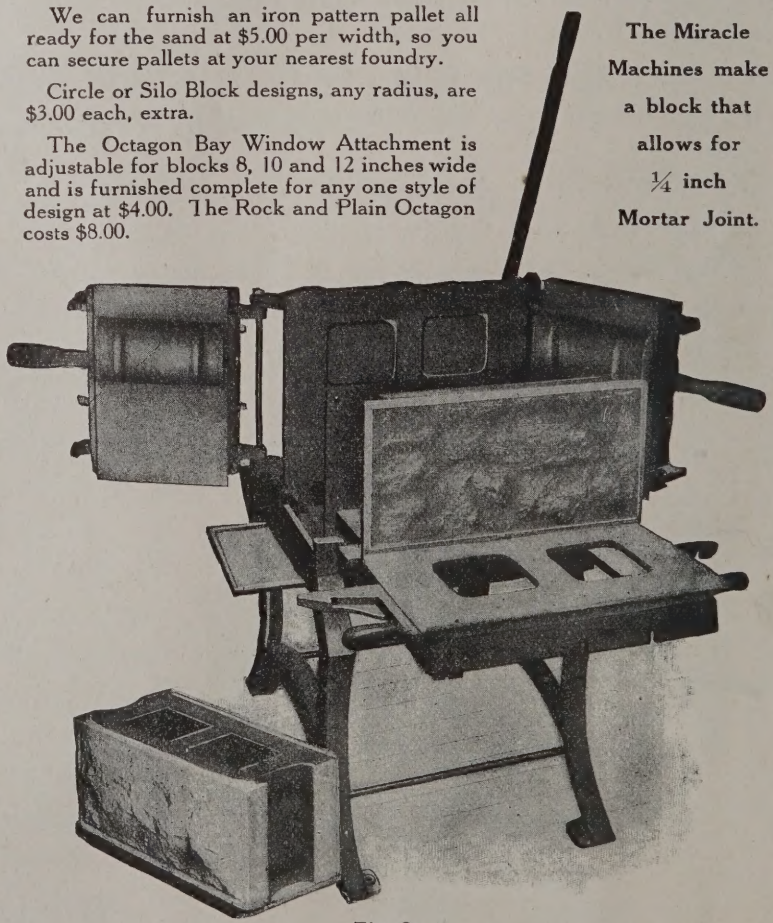


Fig. 2.

MIRACLE ADJUSTABLE FACE-DOWN BLOCK MACHINE.

(Continued.)

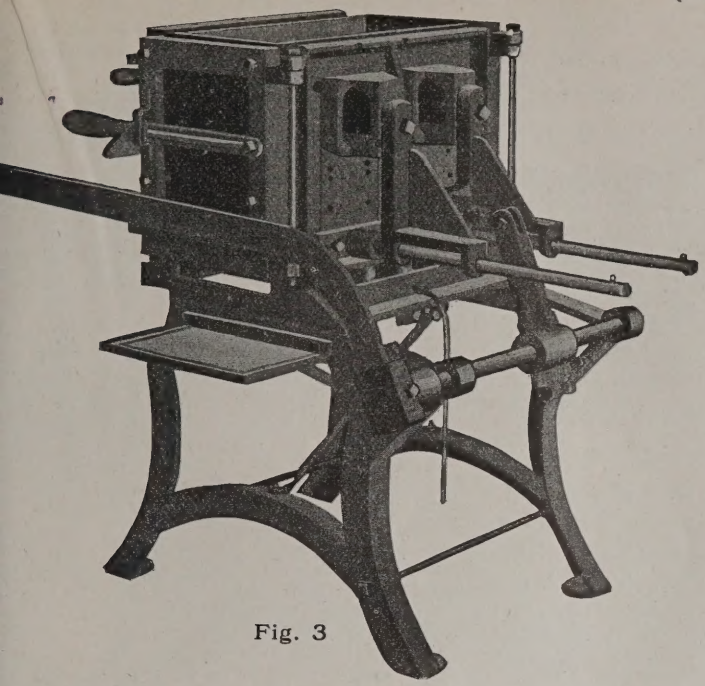


Fig. 3

"C" EQUIPMENT FOR ADJUSTABLE 16-INCH FACE-DOWN MIRACLE CONCRETE BLOCK MACHINE

For Making Hollow Blocks 8x8x16 Inches and 8x10x16 inches, also Veneer or Two-Piece Blocks 2x8x16, 4x8x16, 6x8x16 inches.

$64.00.

One Plain Front Design No. 2.
One Plain Front Design No. 2L, for making one-half and two-quarter hollow blocks.
One Right Hand Plain End Door Design No. 23.
One Left Hand Plain End Door Design No. 23.
One 8 inch Right Hand Rock End Door Design No. 21
One 8 inch Left Hand Rock End Door Design No. 21
One 10 inch Right Hand Rock End Door Design No. 21
One 10 inch Left Hand Rock End Door Design No. 21
One Right Hand End Plate for 8 inch blocks
One Left Hand End Plate for 8 inch blocks
One Right Hand End Plate for 10 inch blocks
One Left Hand End Plate for 10 inch blocks
One Right Hand Core for 8 x 8 x 16
One Left Hand Core for 8 x 8 x 16
One Right Hand Core for 8 x 10 x 16
One Left Hand Core for 8 x 10 x 16
One Back Frame

ADJUSTABLE FACE DOWN "D" EQUIPMENT.

We also furnish a machine for 8 and 4 inch widths of stone with two sets of face plates

For $54.00 F. O. B. Factory.

Five Widths 2, 4, 6, 8, 10 Inches

Three Lengths 4, 8, 16 Inches

Two Complete Sets Face Plates, Your Choice, See Page 76.

Rock and Plain Face Furnished unless Otherwise Specified.

Price $64.00 Complete.

F. O. B. Factory as per Following List of Parts:

One Right Hand Back Frame Space Closer
One Left Hand Back Frame Space Closer
One Front Frame
Two Division Blades for 8x8x16 half and quarter blocks
Two Division Blades for 8x10x16 half and quarter blocks
One Stripper
One Adjustable Plate for making plain gable blocks
One Flat Square End Concrete Block Tamper
One Cast Iron Pallet for 8x8x16 blocks
One Wood Pallet for 8x8x16 blocks
One Cast Iron Pallet for 8x10x16 blocks
One Wood Pallet for 8x10x16 blocks
One Steel Plate for forming inside corners
One Wrench
One Steel Striker
One Concrete Block Carrier
One Right Hand Joist Block Plate
One Left Hand Joist Block Plate

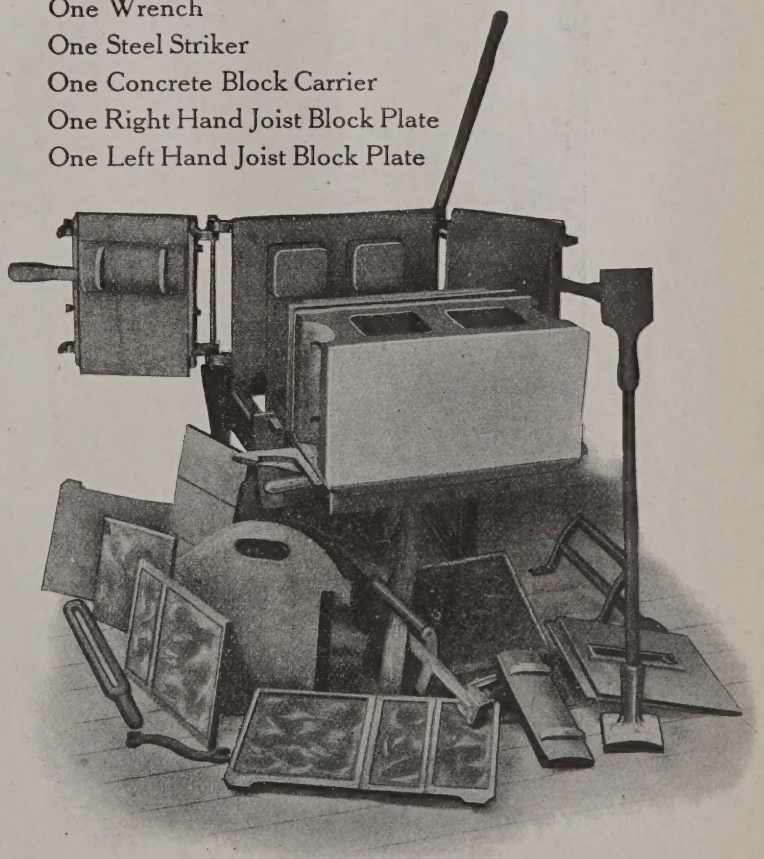
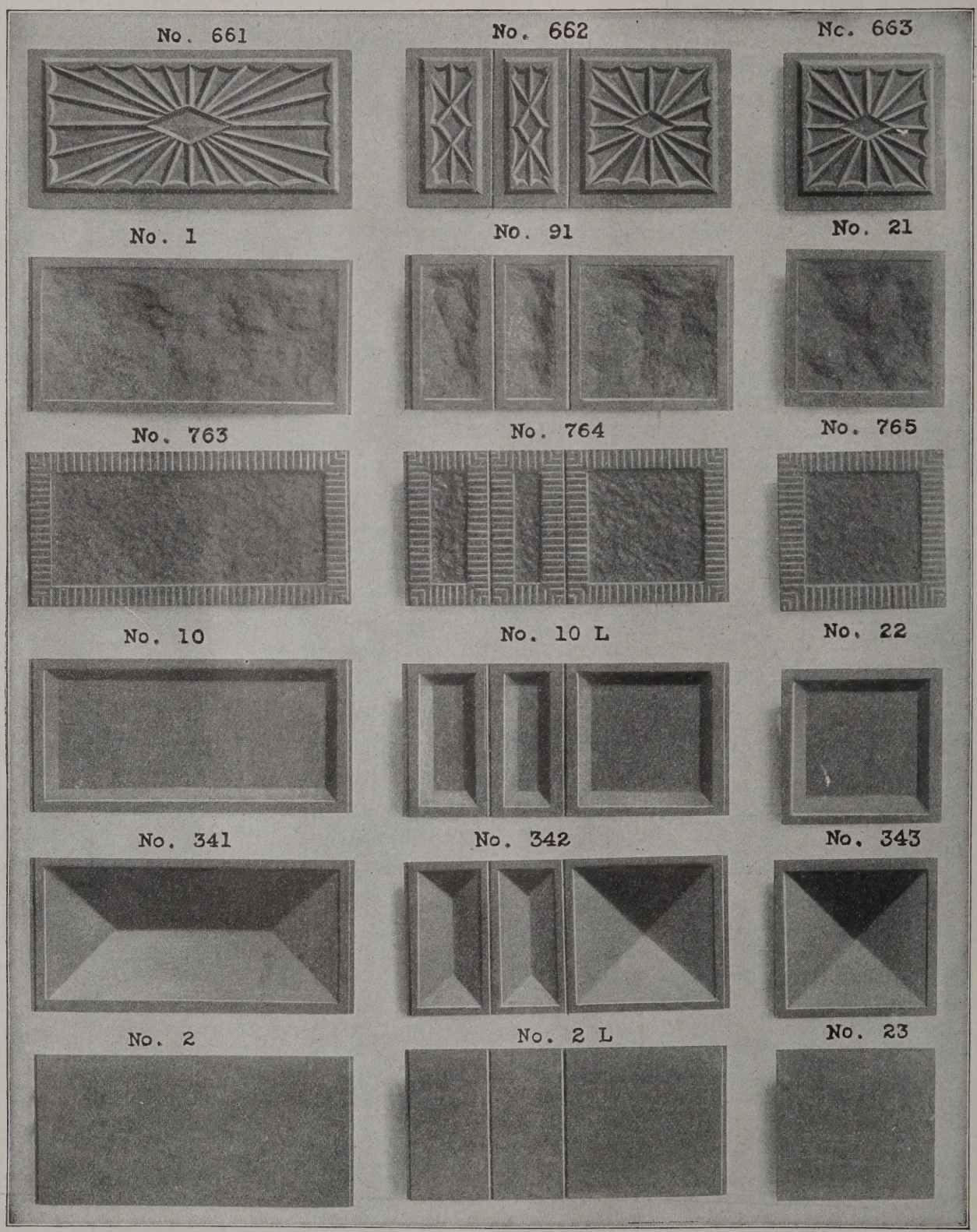


Fig. 4.

MIRACLE ADJUSTABLE FACE-DOWN MACHINE—Continued

It is impossible to excel these standard Miracle designs, because they have all been approved and adopted by the leading architects, engineers, contractors and cement workers of the world.



All of these Miracle designs are planed and carefully fitted to the machines before they leave the factory. The Miracle's cry is "A Perfect Block at the Lowest Possible Cost"

A Miracle Machine is always a safe investment, as Miracle Blocks have superior merit.

INTERNATIONAL BLOCK MACHINE

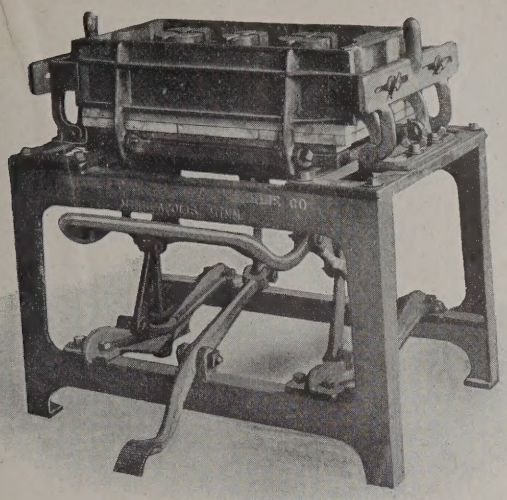


Illustration No. 1—Ready for the Mixture.

SINGLE AIR SPACE.

Price
$175.00
F. O. B.
Minneapolis.

A MACHINE WITH MERIT.

The International is an exceptionally strong machine. It is based upon the simplest of principles and has demonstrated its practical and economical value in many successful plants.

It is made entirely of iron and steel, especially for heavy service, and lots of it. Being equipped complete for all kinds of ordinary construction, it represents one of the best single air space machines on the market.

CONSTRUCTION.

The massive construction of the standard of the International depicts its serviceable qualities. The mold proper is rigidly bolted to the frame and is made up of adjustable sides and ends, which are held securely into position by two strong iron clamps.

The cores are bolted to a bracket or cross beam which slides vertically up and down on two rods which keeps the cores in exact position horizontally, but allows them to be raised and lowered in and out of the mold at the will of the operator. They are lowered by releasing the catch, which is done by raising the hand lever in front of the machine. They are raised into position again by means of the foot lever. Each core is split lengthwise and crosswise of the mold for several inches from the top to allow for division plates in making one-half, one-quarter, three-quarter and veneer blocks in plain face.

The pallets, which are made of wood, are made with three holes in the center in order to slip over the cores and placed in the bottom of the mold.

Each end plate, the back plate and front plate are easily taken off and different plates quickly adjusted. The machine is equipped to produce the following Blocks.

THE BLOCKS YOU CAN MAKE.

The International is regularly equipped to make blocks 6 inches high, 24 inches long, and 8, 10, 12 and 16 inches wide. Produces plain face, rock face and panel face blocks; panel face divided and rock face divided; plain, panel and rock face half length blocks; return corner blocks of all faces; plain end blocks for window jamb; veneer blocks of plain faces; $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$ stones, 8, 10, 12 and 16 inches wide, and chimney blocks.

OPERATION.

The International Machine is automatic in its operation. Illustration No. 1 shows the machine ready for the mixture. The tamping and floating off are simple operations known by all cement users and quickly grasped by the novice. By lifting the hand lever in front of the machine which withdraws a catch, the cores drop out of the mold by their own weight. The operator steadies this operation by placing his foot on the foot lever, thus letting the cores down easy. The clamps at the ends of the mold are then forced outward, which permits all sides of the mold to be released from the block. This completes the operation, leaving the finished block ready to be removed for curing.

PARTS FOR INTERNATIONAL.

Shipping Weight, 860 lbs.

The International is equipped with the following parts.

1	Standard, complete with cores		
1	back plate		S-2
1	plain face plate		S-2
1	panel face plate		S-4
1	panel face plate divided		S-3
1	rock face plate		S-8
1	rock face plate divided		S-9
1	8-inch return corner plate		S-6
1	16-inch return corner plate		S-5
1	10-inch return corner plate		S-7
2	8-inch cored end plates		E-5
2	10-inch cored end plates		E-6
2	12-inch cored end plates		E-3
2	16-inch cored end plates		E-9
1	12-inch panel end plate		E-7
1	12-inch rock face end plate		E-1
1	8-inch plain end for window Jamb		E-4
1	10-inch plain end for window jamb		E-2
1	12-inch plain end for window jamb		E-8
1	16-inch plain end for window jamb		E-10
1	chimney dividing iron		No. 13
1	8-inch chimney dividing iron		No. 17
1	10-inch chimney dividing iron		No. 16
1	12-inch chimney dividing iron		No. 15
1	16-inch chimney dividing iron		No. 14
1	Veneer	No. 12	2 tampers
1	Chimey core	No. 11	2 sample pallets

Sanger, Cal., April 12, 1908.

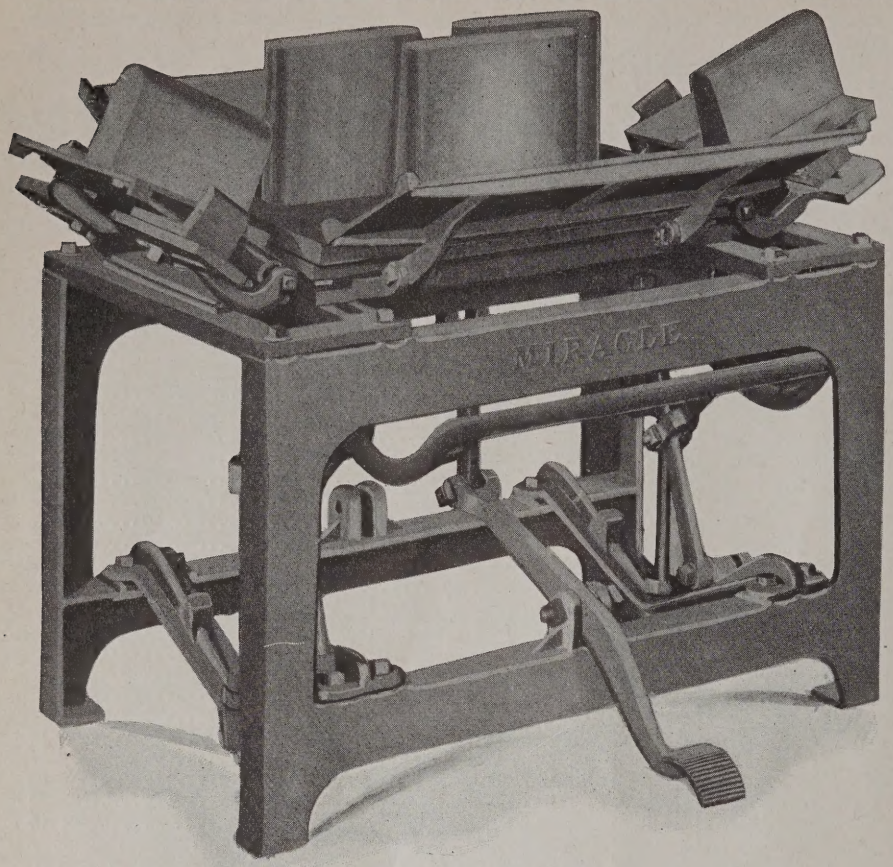
Miracle Pressed Stone Co., Minneapolis, Minn.

Gents:—In checking up the different parts of the International Machine we purchased from you we found it short 1 plain 16-inch end plate, No. E-10, 1 Chimney dividing iron No. 13. The machine is satisfactory in every respect, and we can turn out fine work with it. Two of us turning out 20 blocks an hour with it and doing our own mixing by hand.

Please send me your complete catalog of cement tools and machines. I am very respectfully, L. M. HOWELL, Jr.

Illustration No. 2—The Finished Product.

DROP CORE MODEL FOR MANUFACTURING MIRACLE DOUBLE AIR SPACE BLOCKS



SHOWING OPEN MACHINE

THE Drop Core Model is operated as follows: First place the pallet in position, then raise the core by use of the foot lever; close the end doors first then the side plates and next the latch or clamps that hold the plates in position. The machine is then ready for filling and tamping.

Tamp the blocks thoroughly; strike off level with the float and the block is removed in the following manner: Raise the drop lever which drops the core through the block, then open the machine and the block is ready to be removed on its pallet.

The Drop Core Model is equipped to produce the Miracle Double Air Space block, 8x9x24 inches—the block most used in ordinary construction.

This block weighs 75 to 80 pounds and displaces one cubic foot of wall space. It is equipped completely with accessories for making blocks 6, 12, 18 and 24 inches in length, also blocks for 12 inch return corner, in plain and rock face, also full equipment for manufacturing water table.

Much has been said about the capacity of various machines on the market. The capacity of any machine depends entirely on the men operating it, as it is absolutely impossible to gauge common labor.

The construction of our Drop Core Model is such that we can in all fairness to anyone, say that as many blocks can be produced on it as any machine now on the market.

Remember this machine produces a Double Air Space block, the block specified by well posted builders and architects.

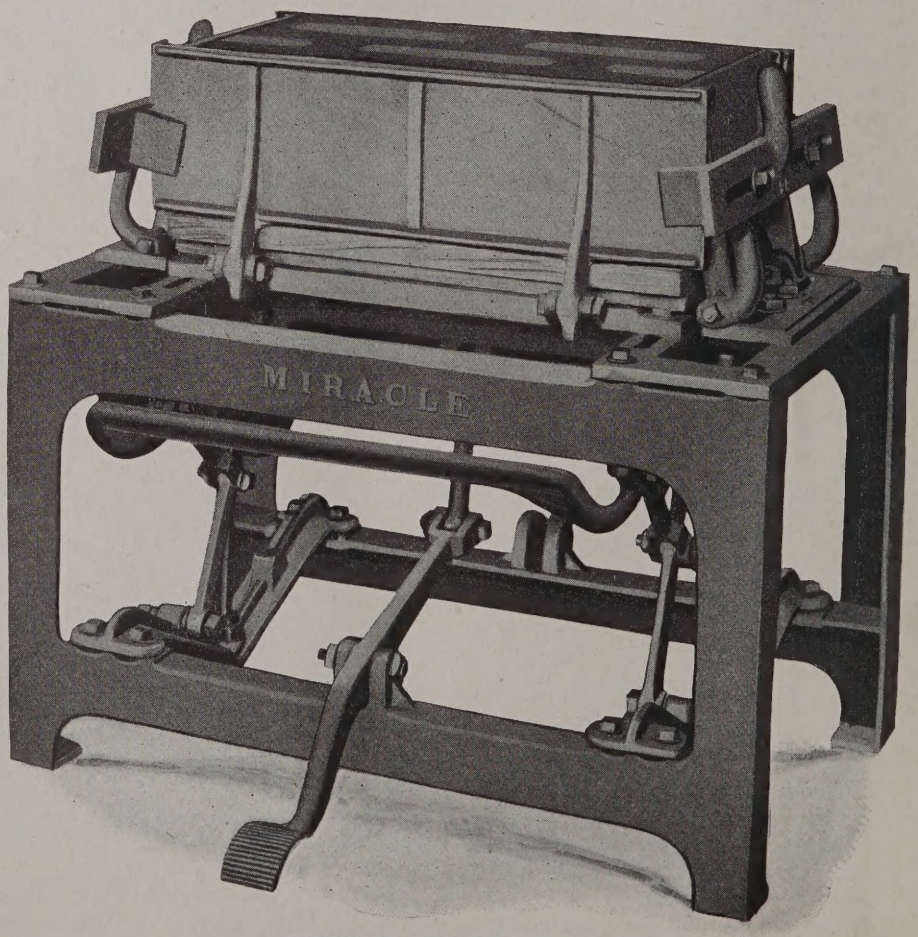
The Drop Core Model has the same honest, durable construction that characterizes all Miracle products. It is built of the best iron castings, every casting machine finished.

Strength and durability are its strong features, and it will last a life time under ordinary conditions.

The cores are bolted onto a bed plate and are raised and lowered with a foot lever which does away with the necessity of cogs and gears, that are liable to clog and collect cement.

The machine is guaranteed in every respect and any plates or parts found defective from defective workmanship or material, will be replaced free of charge within the term of one year.

Price, $275.00 f. o. b. cars Minneapolis.

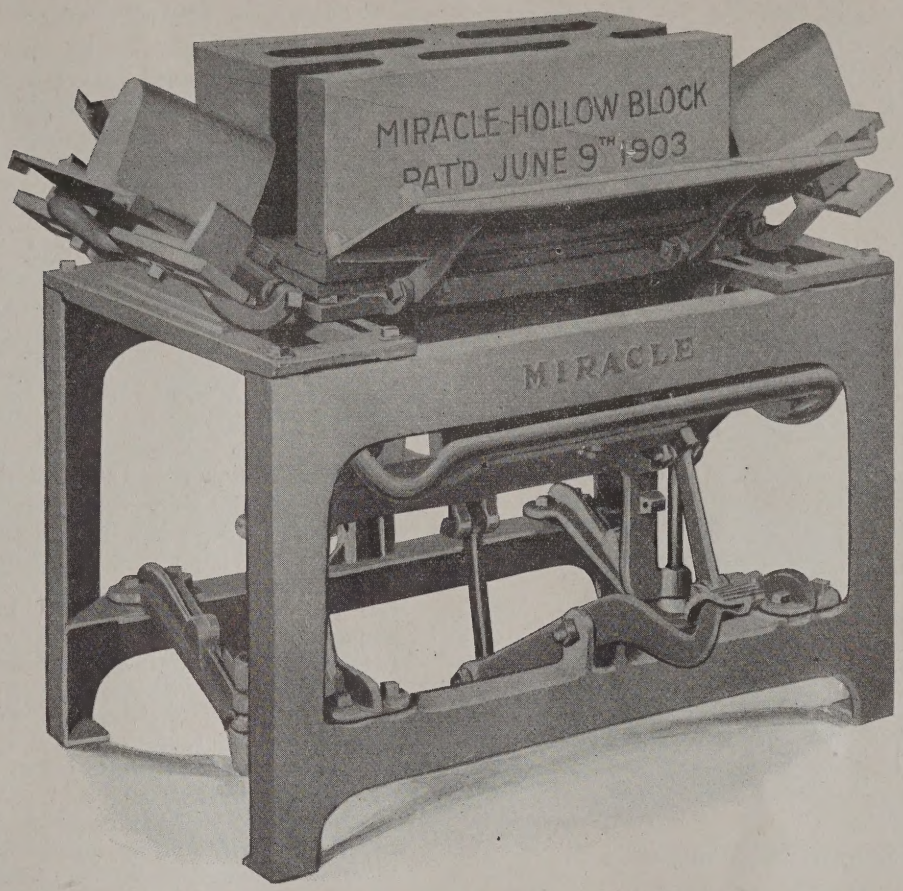


SHOWING CLOSED MACHINE

MIRACLE DROP CORE MODEL

It makes the famous Miracle Double Staggered Air Space Block

It is the only machine that can



It is based upon the Simplest Principle

Nothing to wear out

Nothing to get out of order

FINISHED PRODUCT READY TO CARRY AWAY

INSTANTLY ADJUSTABLE

This machine is adjustable for making blocks any width up to 16 inches and requires for extra widths only extra end plates of the width desired. Adjustable any length up to 32 inches

LIST OF PARTS

1 Stand complete, including Core Beam, Bed for face plates, Lever, Latch, Etc., complete in all details.
1 9-inch Core Plate, including all cores.
1 Chimney Core.
1 9-inch Right Ribbed End Plate with core.
1 9-inch Left Ribbed End Plate with core.
1 Plain back plate
1 Filler for 9 inch return corner block
1 Filler for 9 inch chimney block
1 Plain Face Plate.
1 Plain Face Plate for Half Blocks.
1 Plain Face Plate for ¼ and ¾ Blocks.
1 Plain Face End Plate 12-inch for 9-inch Corner Blocks.
1 Rock Face Plate with margin.
1 Rock Face Plate with margin, for Half Blocks.
1 Rock Face Plate with margin, for ¼ and ¾ Blocks.
1 Rock Face End Plate 12-inch for 9-inch Corner Blocks.
1 Half Division Plate, for 9-inch Block.
1 ¼ and ¾ Division Plate, for 9-inch Block.
2 Iron Tampers.
1 Hopper.
1 Screed
1 Plain Back Plate, for water table
1 9-inch Filler, for water table corner.
1 9-inch Right Ribbed End Water Table.
1 9-inch Left Ribbed End Water Table.
1 Face Plate for water table.
1 Right End Plate for water table.
1 Left End Plate for water table.
1 Sample Wood Pallet, straight
1 Sample Wood Pallet, corner

Equipment for making same blocks 12 inches in width will be substituted without extra charge.

$275.00 F. O. B. MINNEAPOLIS

WONDER FACE DOWN MACHINE—Price $100.

FOR MAKING BLOCKS FACE DOWN,

SIMPLE, PRACTICAL AND HAVING WIDE RANGE OF PRODUCT.

Shipping Weight, 350 Lbs, Capacity, 200 Blocks Per Day. Standard Size, 8x8x16 Inches.

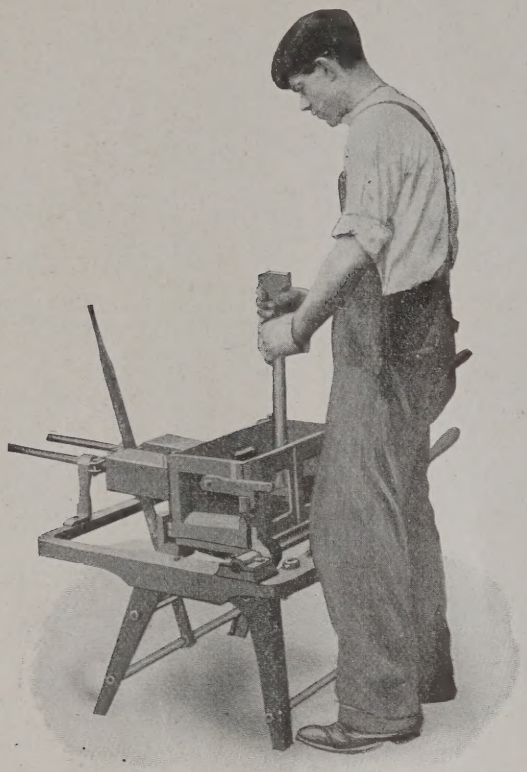


Illustration No. 1—Tamping.

THE BLOCK IT PRODUCES.

The Wonder Face Down Machine No. 1 is equipped to produce single air space blocks 8x8x16 inches. This form and size of block is very desirable for foundations and ordinary buildings. It is very light and easily handled, weighing only 50 pounds. It occupies 1,024 cubic inches, 29 per cent. being air space. It is equipped completely with accessories for making all kinds of shapes, designs and fractional parts of blocks.

CAPACITY.

The Wonder Face Down Machine has a capacity of 200 blocks every ten hours, when operated by a man of ordinary intelligence and ability. It is understood, however, that this material be mixed and delivered to him.

This output has been exceeded by many operators, the capacity being limited only by human speed and endurance.

CONSTRUCTION.

The Wonder Face Down Machine has the same honest, durable construction which characterizes all of the Miracle products. It is built of the best iron castings. Strength and durability are its strongest features. It will last a lifetime under the most severe usage. Every part is perfectly machined and assembled, forming perfect angles, and assuring a perfect block. The strong iron standard is made so that it may be securely fastened to the floor. The mold is rigidly fastened to the standard, and the levers and adjustable parts are well fitted, yet are operated with perfect ease. It will be noticed that there are no cogs, no gears, no chains, or other arrangements to get out of order, or to interfere with the speedy operation of the machine.

The Face plate is detachable, being located in the bottom of the mold and firmly fastened by use of set screws to two arms projecting from the lower front angle of the mold. This angle hinges so that the front of the mold or pallet is dropped outward and downward, while the face plate turns up towards the operator. This frees the block, placing it in an upright position with the face away from the operator.

OPERATION.

Two shovels of mixture are thrown into the mold and tamped down well onto the face. The cores are then drawn into position by pulling the upright lever and the balance of the mold filled and tamped. Notice that the tamper used, has two heads of different sizes and shapes. The square, flat head is used to tamp the face of the block, and the narrow, flattened end is used in tamping between the cores. The top of the block in the mold is the back of the block in the wall, consequently it need not be troweled to a fine, smooth surface. With an ordinary wood float it is leveled quickly and evenly. The float is held with the front side raised and is pushed from the operator, so that all surplus material will be forced down into the block.

The cores are withdrawn by forcing back the lever as shown in illustration No. 2. By raising the catches on the end plates the ends are thrown back and the block turned into an upright position by the use of the lever on the right of the machine. See illustration No. 3. This places the block on the pallet.

The machine is equipped with special handles for carrying the block away. It is so constructed that the back of the block is protected against damage by brushing against the operator. With it the block and the pallet can be picked up, carried away and set down again without the slightest delay or damage. Illustration No. 4 shows the finished block being carried off, but does not illustrate the lifting apparatus in its true form.

The face plate is then easily turned back into position, the end plates fastened and another pallet dropped into place. The machine is then ready for a new block.

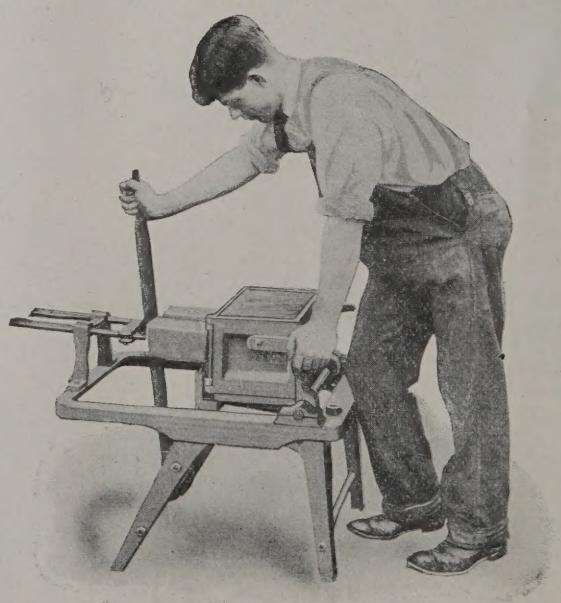


Illustration No. 2—Withdrawing the Cores.

WONDER FACE-DOWN MACHINE—Continued.

Illustration No. 3—Upturning the Block.

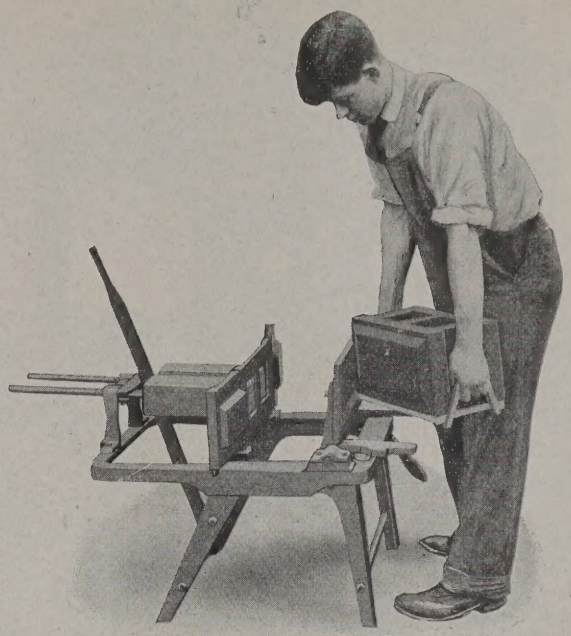


Illustration No. 4—The Finished Product.

PARTS FOR COMPLETE OUTFIT.

One Standard complete, 8x8x16.
One full size, Plain Face Plate.
One full size, Panel Face Plate.
One full size, Rock Face Plate.
One Plain Face Plate for half Blocks.
One Plain Face Plate for one-fourth and three-fourths Blocks.
One Panel Face Plate for half Blocks.
One Panel Face Plate for one-fourth and three-fourths Blocks.
One Rock Face Plate for half Blocks.
One Rock Face Plate for one-fourth and three-fourths Blocks.
Two Regular Cored End Plates.
One Plain Face End Plate for Corner Blocks.
One Panel Face End Plate for Corner Blocks.
One Rock Face End Plate for Corner Blocks.
Two Cores.
One Division Plate.
One Double-Headed Iron Tamper.
25 Iron Pallets.

Additional Iron Pallets, 25 cents each.

PRICE $100.00.

A FEW BLOCKS YOU CAN MAKE.

Plain Face full size Blocks.
Panel Face full size Blocks.
Rock Face full size Blocks.
Plain Face one-quarter size Blocks.
Panel Face one-quarter size Blocks.
Rock Face one-quarter size Blocks.
Plain Face one-half size Blocks.
Panel Face one-half size Blocks.
Rock Face one-half size Blocks.
Plain Face three-quarter size Blocks.
Panel Face three-quarter size Blocks.
Rock Face three-quarter size Blocks.
Plain Face full size Corner Blocks.
Panel Face full size Corner Blocks.
Rock Face full size Corner Blocks.

COST OF BLOCKS.

Under ordinary conditions, the block from a Wonder Face Down Machine No. 1 can be made for about eight cents.

This figure is based on a cost of $2.00 per barrel for cement; sand at 60 cents per cubic yard, and labor at $2.00 per day.

By using the following schedule you can easily arrive at the actual amount each block will cost you. Suppose the best Portland cement cost you $.... per barrel (380 pounds) f. o. b. your station; one barrel will make 50, 8x8x16-inch blocks; mixture 4-1. Divide this by 50 and you will arrive at the cost of cement in each block.

Your sand costs you $.... per cubic yard, which makes 70 blocks (8x8x16 inches). Divide this by 70, which equals cost of sand in each block.

One man at $.... per day and a helper at $.... per day, can make 200 blocks in ten hours. Divide total labor expense by 200, to find the cost of labor in each block.

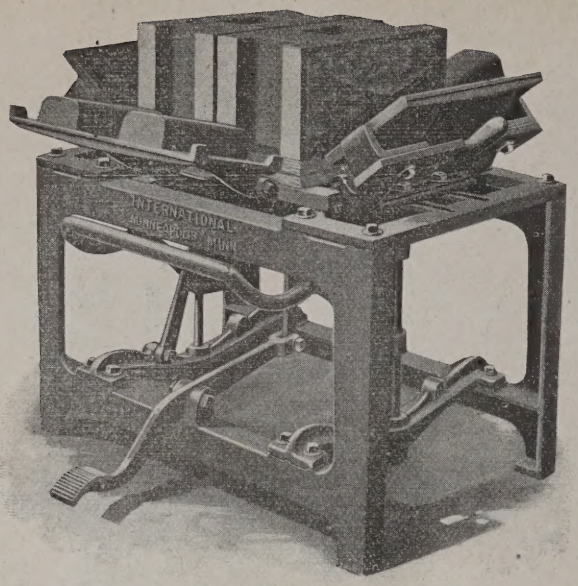
This machine is also furnished to make blocks 8x10x16, with the following parts:

K- 5X	Left Hand Bracket.
K- 6X	Right Hand Bracket.
K- 7X	Guide for core rods.
K-11X	Plain Back Plate.
K-15X	Left cored end door.
K-16X	Right cored end door.
K-38	10-inch Plain end door.
K-39	10-inch Panel end door.
K-40	10-inch Rock end door.
K-41	10-inch Rock (no margin) end door.
K-42	10-inch Division Plate.
	25 10-inch Pallets.

PRICE, $120.00.

A combination machine capable of making both 8x8x16 and 8x10x16 blocks, in plain panel and rock face, with ¼, ½, ¾ and full length blocks. Price, $140.

We will also furnish additional faces, such as cobble stone, hammered, or whatever face may be desired, at $10 per set. That is, full length, half length, three-quarter length, and end door plates.



TWIN BLOCK
DROP CORE MACHINE

Blocks 8x8x16 inches, rock and plain face

Price, $135.00

In some localities there is a ready market for a Concrete block 8x8x16, single air space, for foundation blocks and other purposes where a moisture and frost proof wall is unnecessary. In work of this kind it is necessary to compete with very cheap material, such as the cheapest of rubble stone and ordinary soft brick, which in some localities can be had for as low a price as $6.00 per thousand.

To fill the demand for such a block as mentioned, that can be made at a price which enables one to compete with other cheap material, we have perfected the Twin Drop Core Block Machine. It has plenty of air spaces, so it can be made at a small cost, although not enough air spaces to make it too weak. Making two blocks in one operation, reduces the labor expense at least one-third.

You can make an 8x8x16 block on the Twin Drop Core Block Machine, in the average locality, for about 6c. You can retail this block for 15c and the consumer can get nothing in other material that will meet this price, consequently our manufacturers can make over 100%, and get all of this work.

The illustration on this page shows the machine open. It works on the same principle exactly as the International Block Machine, described on page 77, viz., the cores are dropped from the bottom through the wooden pallet by their own weight, by simply releasing a clutch. The side and end plates are turned in a quarter circle to free the blocks, and the two blocks are ready to be carried away to be cured.

The machine is made of heavy gray iron castings throughout, and is as durable a machine as can possibly be made.

Price, $135.00.

LIST OF PARTS

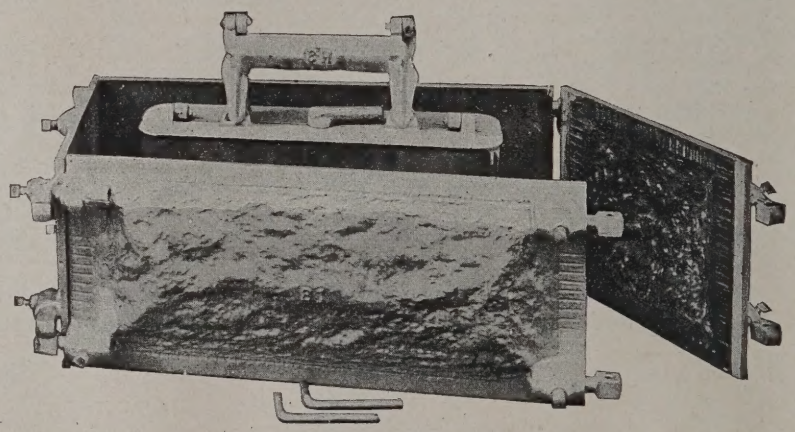
EQUIPMENT FOR TWIN DROP CORE BLOCK MACHINE.

1—Stand, complete with Cores
2—Full Length Rock Face Plates
1—Rock Face Plate, for making 2½ inch Blocks
1—Rock Face Plate, for making Quarter and Three-quarter Length Blocks.
One-half Rock and One-half Plain End Plates
2—Full Length Plain Face Plates
1—Plain Face Plate for making 2 Half Length Blocks
1—Plain Face Plate for making One-quarter and Three-quarter Blocks
2—Corner End Plates, 16 inch
2—Tampers
1—Sample Pallet
1—Division Plate for One-half and One-quarter Blocks.

No. 1 COMBINATION BUILDING STONE OUTFIT.

The No. 1 Combination Building Stone Outfit is a very low price machine, furnished with following plates:

1—Rock Face Plate
1—Rock End "
1—Plain Face "
2—Plain End "
1—Panel Face "
1—Panel End "
1—Tool Face "
1—Tool End "
1—Plain Back "
1—Reveal End "
1—Rock Face Plate for making blocks 9, 5, 3 in. long
1—Plain Face Plate for making blocks 9, 5, 3 in. long
1—Tamper
1—Trowel
1—Collapsible Core



It is suitable for ordinary foundation work and is a very practical outfit for the party who wants to begin on a very small scale.

The block measures 8x18 inches on the face and occupies one surface foot in the wall. This block should make the manufacturer a profit of at least 10c each, in competing with other material, which is in reality about $15.00 per day, if the machine is kept busy.

Price, $22.50.

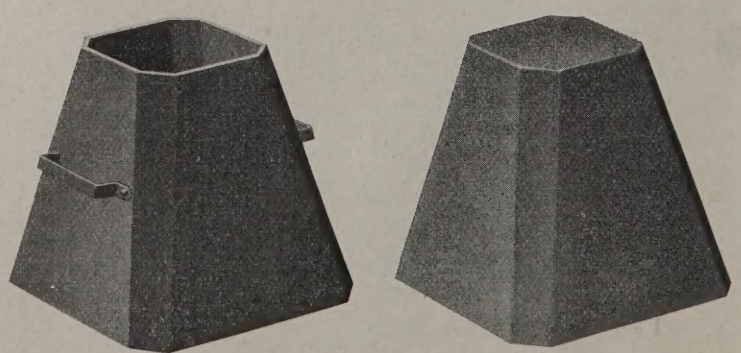
CONCRETE CORN CRIB PIER MOLD.

One of the best money makers of any mold shown in this catalogue is the Miracle Concrete Corn Crib Pier Mold.

A piece of rubble stone about 12x12x8 inches high will cost in the average country town, 15c. It requires a piece of stone that large to make a substantial footing on which to place sills for a corn crib. The Miracle Concrete Corn Crib Pier Mold makes a very neat, solid concrete pier, measuring 10 inches square at the bottom, 6 inches square at the top and 11 inches in height. The corners are beveled to add to the appearance. The pier is of equal size, consequently, it is an easy matter to place them in position, ready for the sill. The actual cost of making a pier is about 5c, and you can sell all you can manufacture at from 12c to 15c.

An ordinary cement floor or wooden floor, the mold, the concrete and a workman is all that is necessary to make the pier. After filling the mold full and tamping, simply lift it off the finished product and make another pier.

Price of Mold Complete with Tamper, $10.00.



NORTHWEST MACHINE.

SINGLE AIR SPACE.

The "Northwest" Machine is another low priced Outfit to meet the demand for ordinary Concrete Construction, either solid or hollow Blocks, and is without exception the most complete Outfit of its kind ever offered. The "Northwest" Machine will produce the following sizes and styles of Concrete Blocks, either solid or hollow:

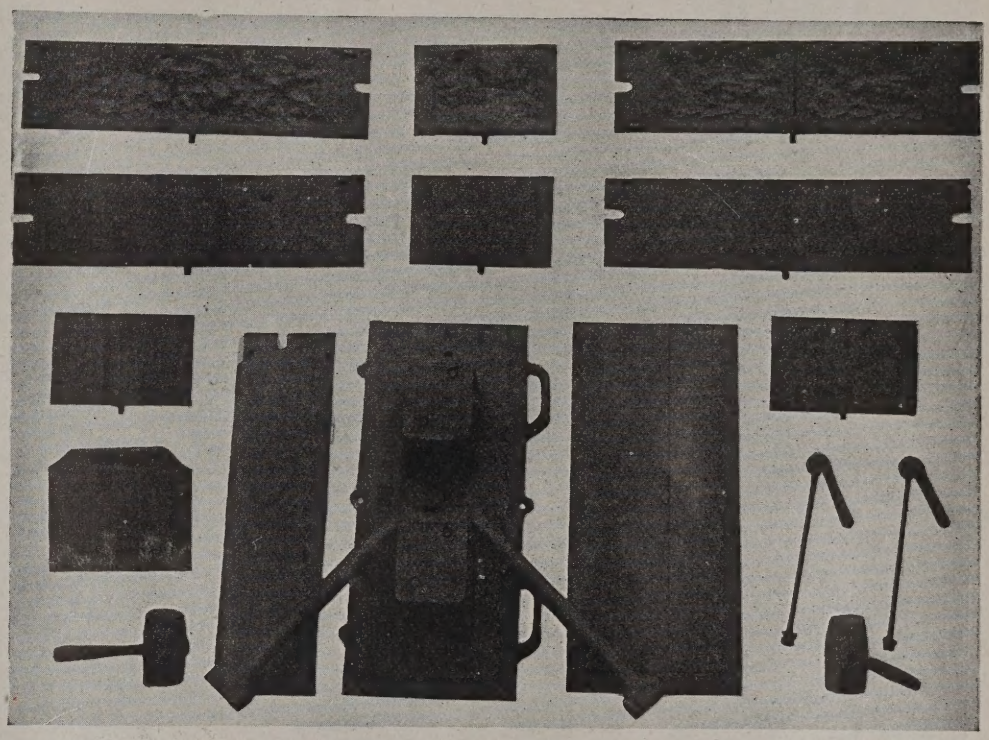
Straight, 12x24x8-inch rock face.
Two Half Blocks, 12x12x8-inch rock face.
Straight, 12x24x8-inch plain face.
Two Half Blocks, 12x12x8-inch plain face.
Corner Blocks, 12x24x8-inch rock face.
Corner Blocks, 12x12x8-inch rock face.
Corner Blocks, 12x24x8-inch plain face.
Corner Blocks, 12x12x8-inch plain face.

Special Jamb Blocks or any special length blocks are produced in this outfit by placing a special wood filler at either end of the mold to produce the size and form required.

The "Northwest" Outfit consists of the following parts:

1 12-in. base with single cores.
1 12-in. ribbed left end.
1 12-in. ribbed right end.
1 plain front plate.
1 plain front plate for half blocks.
1 plain end plate.
1 plain back plate.
1 plain rock face plate.
1 rock face plate for two half blocks.
1 rock face end plate for corner block.
Division plates for half blocks.
2 mallets.
2 iron tampers.
2 cam fasteners.
1 sample wood palette.

PRICE COMPLETE,
$65.00.



CLIMAX MACHINE.

SINGLE AIR SPACE.

The "Climax" Machine is another moderate priced outfit which will fill all the wants for ordinary work, and is similar to the "Gopher" Outfit, with the addition of iron base, iron cores, and mallets. This Outfit will make the following sizes and design of blocks:

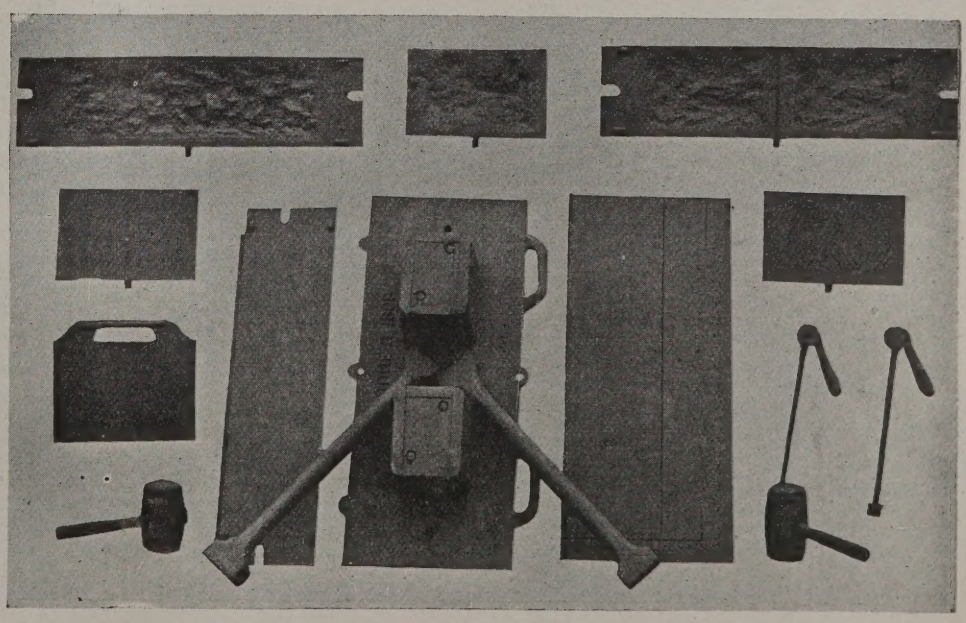
12x24x8-inch straight blocks.
12x24x8-inch two half blocks.
12x24x8-inch corner blocks.
12x12x8-inch corner blocks.

A Good, Practical Machine.
The Best for the Money.

The "Climax" consists of the following items:

1 12-inch base with Single Air spaced cores.
1 ribbed left end.
1 ribbed right end.
1 rock face front plate.
1 rock face plate for two half blocks.
1 rock face end plate for corner blocks.
1 plain back plate.
1 division plate for half blocks.
1 sample wood palette.
2 iron tampers.
2 mallets.
2 12-inch cam fasteners.

PRICE COMPLETE,
$40.00.



A TYPICAL PLANT

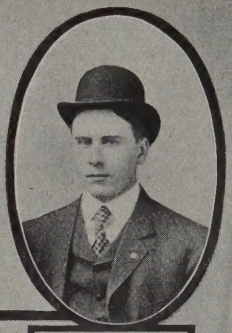
FOR THE MANUFACTURE OF

Miracle Sewer Pipe

Drain Tile, Blocks, Etc.

This plant in the season of 1907 made and shipped 152 cars of Cement Pipe; besides what we sold locally.

H. J. Klemme.



R. H. Klemme.

H. J. Klemme, Pres. **BELMOND CEMENT MF'G. CO.** R. H. Klemme, Sec. & Treas.

Brick, Blocks, Tile, Sewer Pipe, Etc.

Miracle Pressed Stone Co.,
Minneapolis, Minn.

BELMOND, IOWA May 1st 1907.

Gentlemen:-

I herewith enclose you photographs of our plant, the building which is 88' x 100' is built of the Miracle Double-Staggered Air Space Block, a block which I can recommend and consider the most practical block on the market today.

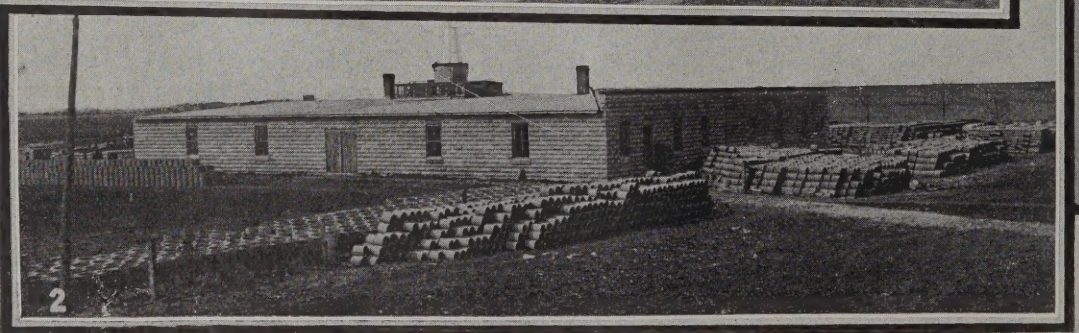
We are also equipped with the Miracle Tile Molds from 15" to 24" and the Brick machine made by the same firm, the tile molds are giving the best of satisfaction as well as the brick machine which is in constant service.

At present we have a very good demand for all of our cement product and are now filling several large orders. Wishing you success, I remain,

Yours respectfully, H. J. Klemme

H.J.K.

1



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3

MIRACLE CONCRETE

THE uses of concrete are limited only by the needs and the ingenuity of men. In no industry—not even in the use of steel—has the development been into more varied and unexpected lines. It would seem idle to attempt a prediction as to the particular branch of industry in which concrete will ultimately show its greatest development, but from present indications it is not improbable that the making of concrete sewer pipe and drain tile will be widely popular, profitable and permanent as a business.

COMMON MATERIALS AND COMMON LABOR.

As has been aptly said, the foundation principle of the concrete industry is its unparalleled economy. In nearly every community the main element—sand and gravel—are to be had for the mere taking of them. Workmen in concrete require no special knowledge or experience, aside from average common sense and a few simple directions. The only part therefore that must be bought is Portland cement. This is now so cheap and the use extending so rapidly that it can be purchased at very low prices practically everywhere in America—in fact, throughout the civilized world.

This explains why concrete sewer pipe and drain tile are rapidly supplying the needs of the farmers for drainage and the requirements of the cities and towns in the building and extension of sewer systems.

A big advantage lies in the use of the labor and material available near where any improvement is going on. This is particularly true of sewer and drain pipe. The freight and hauling is oftentimes half of the first cost of clay pipe shipped from the factories. The breakage is also a considerable proportion of the cost; for in order to make sure that the job can be completed, it is necessary to add to the quantity ordered a considerable percentage for breakage, which is a loss even though the breakage is less than normal. But in cases of unusually large breakage, this shortage thus caused sometimes delays the completion of a job until a new lot of clay pipe can be received, occasioning annoyance, delay and loss.

But with concrete pipe, which is made near where it is used, and on big work is frequently made on the job, the breakage is reduced to the minimum.

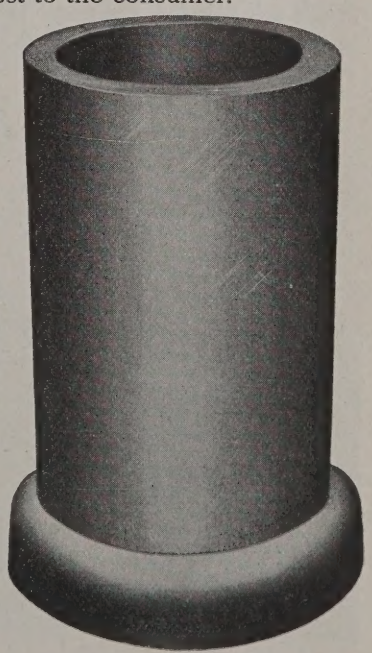
But this is not all of the advantage which concrete pipe has over clay. To make clay pipe requires an organized business with a large capital invested in plant and clay beds; also skilled workers. Besides, clay that is suitable for sewer pipe is not fit for drain tile and, while there is no shortage of suitable clay for all purposes, it can by no means be had at all points, as may be evidenced in the fact that clay products are shipped for many hundreds of miles, and are stocked and stored like ordinary merchandise, which adds to the cost to the consumer.

Compare this with the simplicity of the production of Miracle concrete sewer pipe and drain tile. Excepting a few simple molds, nothing is required but sand, water, common labor and cement. Portland cement is as staple as sugar. Its quality is standardized and regular. It has a market price which has been gradually reduced with the phenominal increase in the production. It would be difficult to imagine any manufacturing business in which there is so little of the element of chance or uncertainty as making concrete sewer pipe and concrete drain tile. Besides, concrete pipe making has the advantage of using cheap labor at certain periods of the year.

No expensive equipment is required either to make, cure or store concrete pipe or tile. Rain only helps to make it better and the ordinary weather changes on the cured product are just what it needs to properly age it. No large stocks need be carried as on the average large size contract it is known at least thirty days ahead the sizes that will be used, giving plenty of time to manufacture and cure the product.

It will thus be seen that concrete sewer pipe and drain tile have these peculiar advantages:

They can be made by home labor out of home material (excepting the cement); they can be made and laid for less cost than clay pipe; there need be no large stocks carried to take care of unexpected demand, as they can be made and cured on short notice; they require only a small investment, affording labor and business opportunities for men of very small means to get a start that will make them handsome profits and ultimately a fine business.

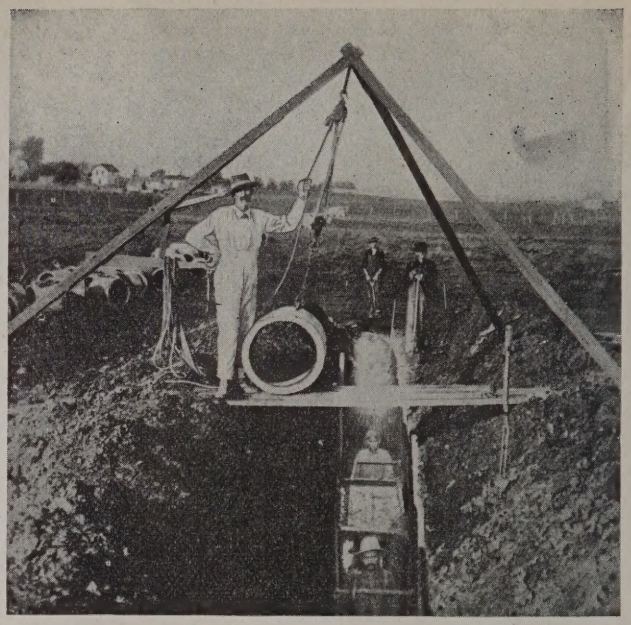


Miracle 12-inch Bell-End Sewer Pipe.

There is just one other point to be considered in connection with the use of concrete sewer pipe and concrete drain tile; that is: Will they make good in use?

On this point it can be truthfully said that if all the other advantages above referred to were in favor of clay pipe, then on the score of strength and lasting qualities alone concrete sewer pipe and drain tile would still be preferred by those who wanted the best job.

Tests made at the Iowa State College, Ames, Iowa, under the direction of Prof. A. Marston, dean of the Engineering Department, show the relative strength of concrete drain tile at 2 months and 11 months as compared with clay tile, the sizes ranging from 24 down to 12 inches internal diameter. We will be pleased to send anyone interested a copy of this report in full. It shows that the tile at 11 months withstood a strain per lineal inch of about 66 per cent more than clay tile of the same size, both kinds of pipe being made of the usual thickness. So much for scientific tests. (See page 104.)



A Crew of Two Men Can Lay the Tile in a Deep Ditch.

A more practical test is that made by the city of Milwaukee in its use of concrete sewer pipe for years. The facts are covered in an address made at the meeting of the Northwestern Cement Products Association held at Chicago, December, 1907, in which Mr. J. P. Sherer, a member of the board of public works of Milwaukee, says that for city work on sewers cement pipe is preferred over vitrified clay pipe even though the selling price is the same. (See page 103.)

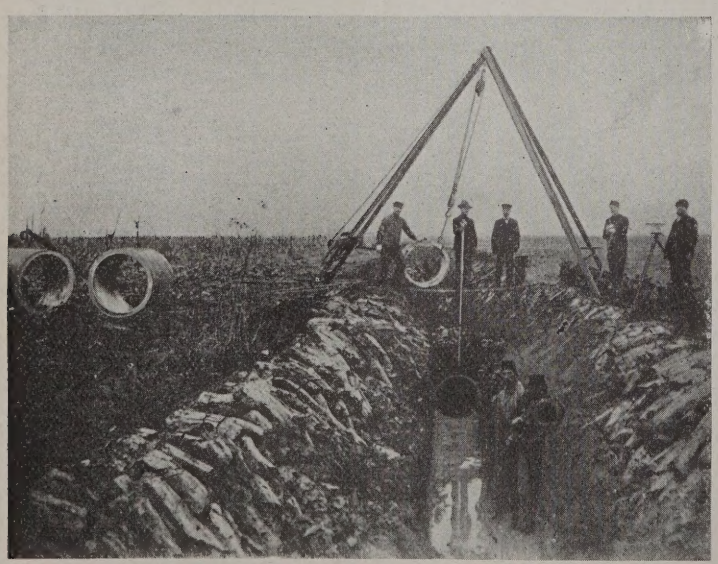
The manufacture of concrete sewer pipe and concrete drain tile opens the way for two lines: small plants in the country and large plants in the cities and towns. A farmer with his hired men can make in their odd time all the drain tile and other pipe needed about the farm, so that the money cost is limited to the price of a few bags of Portland cement. The subject of under drainage is referred to elsewhere in this book so that it need not be enlarged upon here. Such a farm plant can also be extended into making culverts and drains for public roads, etc.

There is hardly a community anywhere in America that will not open an opportunity for some man to get hold of a sand bank, secure a few Miracle concrete tile molds and buy a few bags of cement and get to work filling the orders that he can get by showing his neighbors that he has a product worthy of their attention. Several thousand men have been started in business by us in this way. We can do even more now for our customers than we have in the past.

BETTER DRAINAGE.

Drainage is the farmers' great problem to-day. The great land owners of our country are ready for united action to see the importance of better drainage.

We have but to recall to your mind the inestimable loss incurred by the devastating rains of past years, and you will point to the millions of dollars of loss of grain, highways and price of land that might have been prevented had proper drainage been maintained—drainage which would have speedily carried away the flood of water. Those who in the past felt secure, found that what they termed their "best pieces" submerged and the lowlands which had always been "best pasture" transformed into veritable lakes. What has this meant to the farmer, the land owner, and to the country? Bankrupts and despair were not confined to the "man behind the plow." Lumber dealers and merchants who struggled along through that eventful period were glad to have made one side of the ledger balance the other. But more than all else, it has awakened within every citizen the absolute necessity for precaution for the future. Merchant, farmer, lawyer, doctor, all join, and the result is the greatest move the country has ever known in the direction of better drainage. The legislatures have made favorable drainage laws the first issue, and the landowners are responding. Let us suggest this to you, Mr. Lumberman, or Mr. Manufacturer, the old adage, "strike while the iron is hot," the promptings of which every successful man in the world today has paid tribute, and thereby hangs the tale of his prosperity.



Laying Miracle Drain Tile in a Ditch Partly Filled with Water.

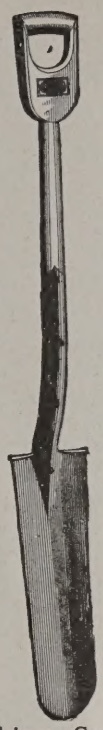
The cry for more Improved Material, Absolutely Indestructible, at a cost within the reach of practicability, led to the invention of the Miracle Cement Tile and Sewer Pipe Molds. We have opened the way. Many hundreds have taken up the manufacture, and their large success indicates that cement tile of all sizes are readily superseding the clay tile.

MIRACLE MOLDS EARN LARGE PROFITS ON SMALL INVESTMENTS

Illustration No. 1—Tamping in the Bell.

Tiling Spade

4½x20....$1.85 each
6½x18.... 1.95 "
6½x22.... 1.95 "



Ditching Spade

14-inch.....95c each
16-inch.....$1.00 "
20-inch..... 1.00 "

Draining Spade

5½" at the top to 4½" point, 18" long, $1.00

Another point of great superiority is that the inner and outer casings are each in one piece. This results in a great saving of time, decreasing the cost of labor by increasing the capacity to a maximum by doing away with awkward handling of separate parts, insuring greater speed than can be had with any other Molds.

A GOOD SIDE LINE.

The manufacture of cement tile by the use of our New Improved Molds has become most popular as a side line. The lumberman, the merchant, the tradesman have all found it a most profitable and practical proposition. It requires little time and attention of the investors if a responsible workman can be placed in charge. It calls for a very small capital compared to that which is required by the use of other molds and in view of the large profits that are possible. We have had many persons,—lumbermen especially, write us that the profits on their cement business as a side line was more profitable than their lumber business, and that their investment was comparatively nothing.

This is an excellent and practical way to become acquainted with the Concrete Industry as a whole, and if followed up as it should be, will stand as the opening wedge to something better.

COMPARISON TO CLAY TILE.

It is a well known fact that the advance in price of fuel and scarcity of good clay is rapidly increasing the cost of all clay products. Again, you often find that when a man wants Sewer Pipe or Tile, it is not so much a question of the price as "when can I get it." This brings up what is often competition's greatest argument, prompt and quick delivery. The introduction of Cement Tile and Sewer Pipe puts an entirely different phase on this question, as the supply of sand is unlimited, and new Cement Mills springing up daily make it possible for each community to supply its own Cement, thus doing away with the large Freight Charges which heretofore have been a great factor in cost. It is certainly reasonable that Sewer Pipe or Tile can be sold cheaper direct from Maker to Consumer than from Maker to Jobber, from Jobber to Retailer, from Retailer to Consumer, not to mention the Big Freight Charges on this Class of Goods, which must be added in the end to the Retail Price.

We print here a table giving the Average Retail Price on Clay Pipe. Also a table showing the much lower cost to you to make the Pipe of Cement with MIRACLE Molds. You know what the same sizes in clay cost you, delivered in your town. You know that the difference is so great that if a competitor puts in a MIRACLE Cement Plant you would have to go out of the Clay Pipe business.

Average Retail Price per foot for Clay Sewer Pipe in table below is from quotation of 140 leading retail dealers representing all sections of the United States:

Remember that these figures are not intended to fit the cheap, straight clay pipe, nor a porous cement pipe for drain purposes, but the best vitrified clay pipe and the very best (3 to 1) cement pipe, with bell ends.	Average retail price per foot of clay Bell-end pipe.	Cost per foot to make Bell-end cement pipe with Miracle Molds.
4-inch	$0.12	$0.05
5-inch	.14	.054
6-inch	.17	.07
8-inch	.23	.086
9-inch	.26	.096
10-inch	.30	.115
12-inch	.375	.155
15-inch	.543	.192
16-inch	.60	.205
18-inch	.789	.237
20-inch	1.008	.255
24-inch	1.45	.343
26-inch	1.65	.385
30-inch	2.10	.443
36-inch	2.75	.575

THE MECHANISM IS ACCURATE. THE OPERATION SIMPLE.

Making Bell End Pipe

REPEAT ORDERS

Are the BEST POSSIBLE PROOF of the profits to be realized on CONCRETE PIPE and the stability of this branch of the concrete business.

The following is a list of the machines purchased by the Bartlett Lumber Co. of Greeley, Colo.:

June 7, 1906—8-in., 12-in., 15-in., 20-in.
Sept. 30, 1906—6-in., 10-in., 26-in.
Oct. 18, 1906—18-in., 24-in.
May 1, 1907—30-in.
May 7, 1908—Bell attachment for several of above sizes.

Would this firm still be purchasing additional equipment, had not the first order been a **Profitable Investment?**

Garysburg, N. C., March 27, 1908.

Miracle Pressed Stone Co. Minneapolis, Minn.

Gentlemen:—I beg to hand you herewith enclosed draft, N. Y. for forty dollars and sixty-five cents ($40.65) for which you will ship me the tile mold and attachments as described on order blank attached hereto. I will thank you if you will have this machine shipped at once. Go to Express office and if the express charges are not more than ten (10) dollars, ship by Express, if more than ten let it come by freight. I instructed the bank several days ago to pay the draft for $55.75 of yours number 1020 and trust you have received remittance ere this.

I used the 24 in. mold one day and turned out 22 joints of pipe and was very much pleased with the work.

Trusting you will give this matter prompt attention, I am,

Yours truly, JNO. G. ELLIS.

Miracle More-Money Molds.

NINE GOOD POINTERS.

1. They are the summit of perfection.
2. The shells can be removed immediately after tamping.
3. One mold will, therefore, do the work of fifty molds of any other make, and it only costs one-fiftieth as much.
4. The investment is therefore greatly reduced.
5. The profits are, therefore, greatly increased.
6. The sale of 100 pieces of pipe 10 in. and larger will yield profit enough to pay the investment and leave a considerable balance besides.
7. We will sell one mold on 30-day free trial and return your money if not fully as represented.
8. Why not send for one mold of the most suitable size for your territory and try it out for your own satisfaction?
9. Read the following pages, and then decide.

Removing Inner Shell.

Lakeland, Louisiana, July 10, 1907.

Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentlemen:—Some time ago we bought one of your molds for making twenty inch cement sewer pipe. We have used it to make several pipes and find that it works quite satisfactorily in the hands of our ordinary plantation laborers.

We are greatly pleased with the mold. With it we can replace our wooden bridges at half the cost of vitrified pipes and at about the same price as new bridges. We consider the cement pipe superior to the vitrified pipe as the cement will continue to harden for many years after being placed in the ground.

Respectfully,
ALMA PLANTATION, Ltd.
H. C. Pitcher, Gen'l Mgr.

Salem, Mo., Dec. 17, 1907.

Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentlemen:

The Tile Machine I ordered of you is all right. I unpacked it and made nine tile, they are Beauties. Am pleased with it andcan say it is all you claim. Draft for $45.25, please apply to my account. Will want 4-inch Tile Machine soon, is it as easy to operate as the large and send me some information about your $15.00 Brick Machine.

Yours truly,
J. R. RAY.

Cost of Cement Pipe and Tile.

The following cost is figured on a basis of a mixture of One Part Cement to Three Parts Sand. (This Mixture makes a Pipe or Tile that is absolutely Indestructible.) These estimates are based upon results in every day work, as are all MIRACLE estimates, upon what the molds will actually do day in and day out, with a team of three men.

3-to-1 MIXTURE; SAND, 75c per yard; LABOR, $2.00 per day; CEMENT, $2 per barrel; 4-inch to 8-inch pipe 18 inches long and 10-inch to 36-inch pipe 2 feet long.

Kind of Tile.	Thickness.	Cubic Ft. Sand.	Cost of Sand.	Cost of Cement.	Cost of Labor.	Cost of Pipe.	Cost per Foot.
4-inch Bell-End	¾ inch	.079	.004	.011	.06	.077	.05
4-inch Straight	¾ inch	.0633	.002	.01	.04	.044	.028
5-inch Bell	1 inch	.232	.006	.013	.062	.081	.054
5-inch Straight	1 inch	.1964	.005	.011	.055	.071	.047
6-inch Bell	1 inch	.354	.01	.015	.08	.105	.07
6-inch Straight	1 inch	.324	.007	.012	.058	.077	.05
8-inch Bell	1 inch	.452	.015	.035	.08	.13	.086
8-inch Straight	1 inch	.432	.01	.03	.06	.10	.066
9-inch Bell	1⅜ inch	.695	.0194	.083	.09	.1924	.0962
9-inch Straight	1⅜ inch	.622	.0174	.074	.0655	.1569	.0785
10-inch Bell	1⅜ inch	.83	.025	.105	.10	.23	.115
10-inch Straight	1⅜ inch	.68	.02	.085	.07	.175	.087
12-inch Bell	1½ inch	1.1	.03	.18	.10	.31	.155
12-inch Straight	1½ inch	.88	.025	.145	.07	.24	.12
15-inch Bell	1⅝ inch	1.4	.039	.235	.11	.384	.192
15-inch Straight	1⅝ inch	1.17	.033	.195	.08	.308	.154
16-inch Bell	1⅝ inch	1.42	.04	.25	.12	.41	.205
16-inch Straight	1⅝ inch	1.24	.035	.215	.085	.325	.162
18-inch Bell	1¾ inch	1.84	.055	.28	.13	.465	.237
18-inch Straight	1¾ inch	1.5	.045	.21	.09	.345	.172
20-inch Bell	1¾ inch	1.95	.056	.325	.13	.511	.255
20-inch Straight	1¾ inch	1.67	.045	.266	.10	.411	.205
24-inch Bell	2 inch	2.75	.075	.46	.15	.685	.343
24-inch Straight	2 inch	2.25	.063	.37	.12	.553	.276
26-inch Bell	2 inch	3.05	.09	.52	.16	.77	.385
26-inch Straight	2 inch	2.5	.075	.43	.125	.63	.315
30-inch Bell	2½ inch	3.70	.101	.615	.17	.886	.443
30-inch Straight	2½ inch	3.13	.086	.55	.15	.786	.393
36-inch Bell	3 inch	4.90	.134	.815	.20	1.149	.575
36-inch Straight	3 inch	4.32	.118	.72	.17	1.008	.51

PERFECT MECHANISM OF THE MOLDS.

THE MIRACLE PRINCIPLE.

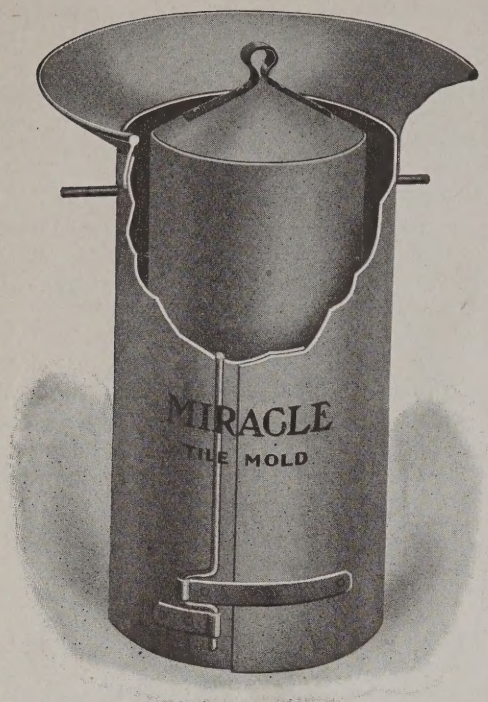


Illustration No. 5.
Showing a sectional view of a Miracle Mold complete ready to make a straight tile.

The concrete industry may be a good proposition as a whole, but it would not be unless concrete itself had the merits claimed for it. Concrete products have the merits and are good; but it must be made right. Cement Sewer Pipe are certainly in demand, because they possess the unquestionable hardness and durability of well made concrete, and they grow better with age. With any good molds they can be made right, but with all molds except the "MIRACLE" the cost of making is too high to warrant a ready sale with good profits. Why? Because the shells of all molds EXCEPT THE "MIRACLE" cannot be removed immediately after tamping. Other molds must remain around the tile for twenty-four hours or more until the cement sets. This, of course, means that an enormous amount of money, upon which a good interest must be made, shall be spent in more molds so that a good quantity of tile can be produced each day. The supply of molds must equal the daily capacity; therefore, the cost of cement tile has always been out of proportion.

But the Miracle Improved Molds are different. One mold can be kept in operation all the time. It can be removed immediately after tamping, and the tile will remain and set perfectly. Both the interior and exterior shells can be promptly removed without the slightest jar to the fresh cement. Why? Because of its simple and perfect mechanism. (See illustrations Nos. 6 and 8.)

EASILY AND SUCCESSFULLY OPERATED.

It's the steadiness of the releasing principles which makes these Improved Molds so popular and so successful. The outer shell (Illus. No. 8) can be expanded with all the steadiness and ease that its operator possesses. There is not that usual snap and jar of a lever, which with other molds causes the tile to crumble.

For making tile of all sizes in diameter, we use an interior shell, as shown in illustration No. 6. This consists of a screw arrangement which certainly does not permit of the least snap or jar in contracting. Notice how turning the screw to the left lowers the upper arms attached to the shell and raises the lower arms. In this way the distance from the circumference of the mold to the center is lessened, causing the shell to contract.

This screw arrangement gradually releasing the inner shell is most desirably adapted to all sizes, for otherwise the tendency would be to spring or jump when released.

Moores, Pa., Feb. 10, 1908.

The Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentlemen:—Please send me your latest catalog of cement machinery.

We are well satisfied with the mold you sent us about a year ago. We had quite a fair output for the first year. Sold all we made and could have sold much more. Even the inferior pipe we did not wish to sell was sold. We are going to increase our plant soon.

Very truly yours,
OWEN E. BATT.

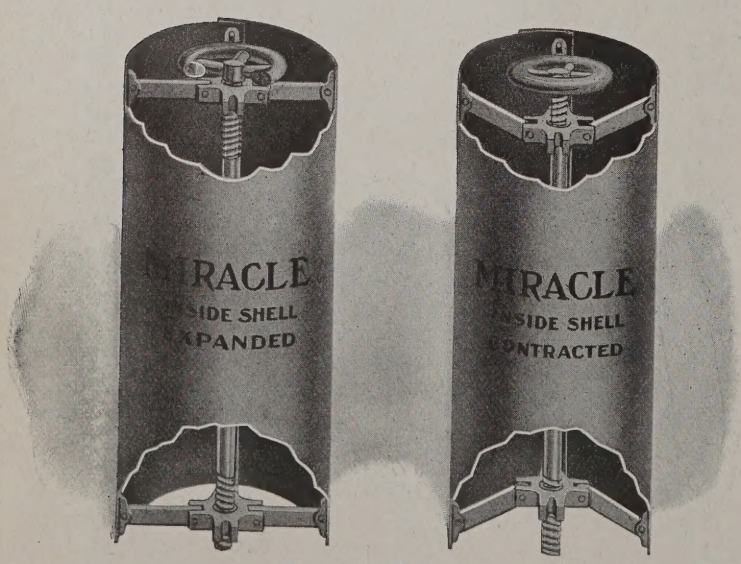


Illustration No. 6.
Showing mechanism of inner shell of molds for making tile. Expanded and contracted.

Clarinda, Iowa, Dec. 17, 1906.

Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gents:—The tile molds I find to be just the thing. We had a good sale of the tile, it was late in the year to buy these tile molds but we had a good trade. We made about 3,000 feet of 12-inch tile; 2,500 feet of 15-inch tile, and about 1,500 feet of 24-inch tile. I think they are better than clay tile. They will stand frost better, and the older they get the better they are. A clay tile is no better than the day it is put in the ground—cement gets better the longer it is in the ground. I know this to be true; I have made clay tile for 16 years and am still making them.

Yours,
PAUL O. COOK.

McKeesport, Pa., Dec. 11, 1907.

Miracle Pressed Stone Co.,
Minneapolis, Minn.

Dear Sirs:

In answer to yours of recent date regarding sewer pipe mold which we purchased from you, would say that this mold is giving perfect satisfaction and we are having no trouble with it.

Yours truly,
AMERICAN TOMB CO.,
Thos. M. Evans, Secy. & Treas.

EVERYBODY LIKES THE MIRACLE MOLDS.

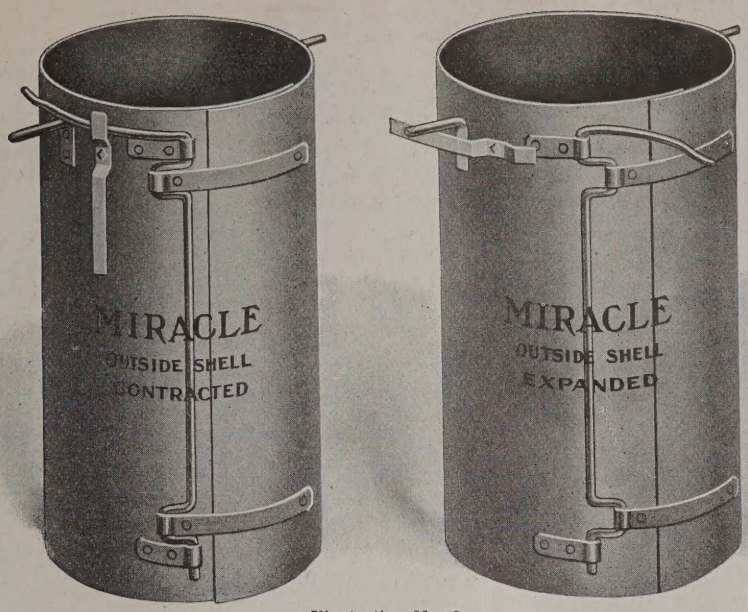


Illustration No 8.
Showing outer shells of all Miracle molds. Expanded and contr cted.

Where it is necessary to reinforce pipe for inside pressure such as pipe for irrigation systems, we furnish reinforcement as per specification on page 105.

Lamar, Colo., April 17, 1908.

Miracle Pressed Stone Co., Minneapolis, Minn.

Gentlemen:—We have been using your machinery for making sewer and large drainage pipes for some time and the tiling made with your machinery gives the best of satisfaction. We have made sixty miles of cement tiling in the last year and it is taking the place of clay tiling quite rapidly, and the indications are that we will have to run our tile plant double shifts on account of the great demand that is being made for this class of tile.

Very truly yours,
THE LAMAR BRICK & STONE CO.
By L. Wirt Markham, President.

Spearfish, S. D., Dec. 12, 1907.

Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentlemen:—Yours of 12/13 to hand. I would say the tile that I have made and sold has given good satisfaction, and I made good money, and have orders for 800 feet of 8-inch that sell at 25 cents per foot. The 2-foot bell end, I sell at $1.40 a foot, $2.80 per tile at yard. I intend to enlarge my place in spring so I can handle a large lot, as I haven't done much. I have had so much other work to look after.

Yours very truly,
(Signed) B. F. BADGER.

A GOOD START.

Estherville, Iowa, Aug. 26, '05.

Miracle Pressed Stone Co., Minneapolis, Minn.

Dear Sirs:—It is 5 o'clock Saturday afternoon. The boys have their checks and have gone home; 495, 2 ft., 15-in tile is their week's record; satisfactory alike to them, to you, and to ourselves, I am sure. If all goes well next week, we will complete the 3,800-foot contract.

Hoping other purchasers of "Miracle More Money Molds" are having as good success getting them started, I am

Yours very cordially, (Signed) L. L. BINGHAM.

On May 1st., 1908, Mr. Bingham was still using the SAME Miracle More Money Molds.

Greenville, Ky., Dec. 29, 1906.

Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentlemen:—I am very glad indeed that I bought the tile molds, and now need another size.

Please ship at once one 10-inch straight tile outfit and draw draft on Muhlenberg County Savings Bank, and oblige,

Very respectfully,
R. C. McCRACKEN.

CAPACITY OF THE TILE.

The following is a table from Kutter's Formula with N. 013, giving the capacity of concrete sewer pipe discharge to cubic feet per second flowing full.

Fall per 100 Feet.	10-in. Pipe.	12-in Pipe.	15 in. Pipe.	18-in. Pipe.	20-in. Pipe.	24-in. Pipe.
1. ft.	2.057	3.405	6.293	10.377	13.833	23.267
.8 ft.	1.838	3.043	5.628	9.280	12.367	20.333
.6 ft.	1.592	2.637	4.875	8.038	10.714	17.617
.4 ft.	1.299	2.152	3.972	6.548	8.733	14.333
.2 ft.	0.910	1.507	2.788	4.598	6.133	10.833
.1 ft.	0.640	1.059	1.962	3.238	4.317	7.117
.09 ft.	...	....	1.857	3.065	4.083	6.733
.08 ft.	...	....	....	2.885	3.850	6.333
.07 ft.	...	....	....	2.687	3.583	5.900
.06 ft.	...	....	....	....	3.300	5.450
.05 ft.	...	....	....	....	....	4.967
.04 ft.	...	....	....	....	....	4.417
.03 ft.	...	....	....	....	....	3.783
.02 ft.	...	....	....	....	....	3.100

We will send one Mold complete on approval, and return your cash if not satisfactory.

You can surely sell the product of one Mold. Send for the size which is most popular with you.

Grand Junction, Iowa, Tile Yard.

Grand Junction, Iowa, May 14, 1907.

Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentlemen:—We are mailing you under separate cover two photographs of our tile yard, and one of a test of a 28-inch tile. Photograph No. 1 shows our factory in the background, which is 40x132 feet.

Last year we started on a contract Aug. 13th and stopped Nov. 10th. During that time we made 7,000 feet 28-inch tile; 600 feet 20-inch tile, and 1,200 feet 18-inch tile. We run only one set of moulders using Miracle moulds. The concrete was proportioned 1 to 3 mixed in a cube mixer, which was run by a gasoline engine.

We hauled our tile to the ditch when about 15 to 20 days old, consequently when we stopped in the fall we had nothing in the yard. We put 2,500 pounds on an 18-inch tile and did not break it.

We have run out about 4,500 feet of large tile this spring.

Yours truly,
MODERN CONSTRUCTION COMPANY.
Per G. H. Wiltse,
O. B. Lofstedt.

That Cement Sewer Pipe is being adopted by cities is shown by the following order from Savanah, Ill.

Miracle Pressed Stone Co., Minneapolis, Minn.

Gentlemen:—Please ship the following order to O. H. Robe, City Clerk, City of Savanah, Ill., at once. Send bill to City Clerk first Wednesday in April.

1	8″ Tile Mold	$18.00
1	Top Ring Bevel and Tong	.80
10	Bottom Rings	5.00
1	12″ Tile Mold	22.00
1	Top Ring Bevel and Tong	.95
10	Bottom Rings	6.50
1	18″ Tile Mold	27.00
1	18″ Bell Attachment	4.50
10	18″ Inside Ring	12.50
1	24″ Tile Mold	35.00
1	24″ Set Bell Attachments	6.00
15	24″ Inside Rings	24.75
		$163.00

Purchasing Committee { W. W. McGRATH, Mayor.
H. ZELENKA

CAPACITY OF MOLDS.

The capacity per hour for each of the different styles and sizes of Miracle Molds are as follows:

	Number of Tile made per hour with a team of three men.		Number of Tile made per hour with a team of three men.		Number of Tile made per hour with a team of three men.	
4-in. Bell-End	14	per hour	10-in. Bell-End	6	20-in. Bell-End	4.5 per hour
4-in. Straight	16	per hour	10-in. Straight	9	20-in. Straight	6.5 per hour
5-in. Bell-End	13	per hour	12-in. Bell-End	6	24-in. Bell-End	4 per hour
5-in. Straight	15	per hour	12-in. Straight	9	24-in. Straight	6 per hour
6-in. Bell-End	11	per hour	15-in. Bell-End	5.5	26-in. Bell-End	3.5 per hour
6-in. Straight	12	per hour	15-in. Straight	7.5	26-in. Straight	5.5 per hour
8-in. Bell-End	10	per hour	16-in. Bell-End	5.5	30-in. Bell-End	3.5 per hour
8-in. Straight	11	per hour	16-in. Straight	7.5	30-in. Straight	4 per hour
9-in. Bell-End	8	per hour	18-in. Bell-End	5	36-in. Bell-End	3 per hour
9-in. Straight	10	per hour	18-in. Straight	7	36-in. Straight	3.5 per hour

Please ship the sizes checked above to me at once. I enclose herewith (Check) (Draft) (Money Order) for $_____

NAME_____ TOWN_____

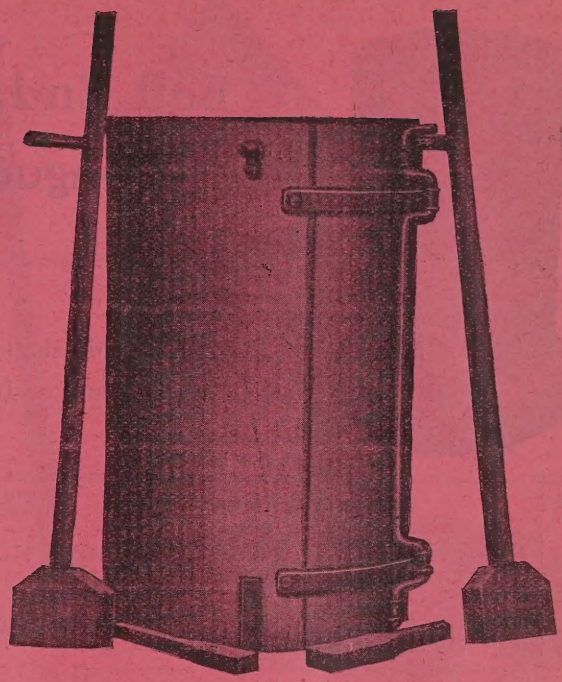
Ship Via_____ R. R._____ STATE_____

If not rated in Dunn or Bradstreet, (to save delay in shipment) please send reference or 25% of amount with order.

Remember, 5% discount is allowed where cash for entire amount accompanies the order—except Bell and Bevel and Tongue Attachments, which are net.

Form 106 5M

MIRACLE PRESSED STONE CO., Minneapolis, Minn.



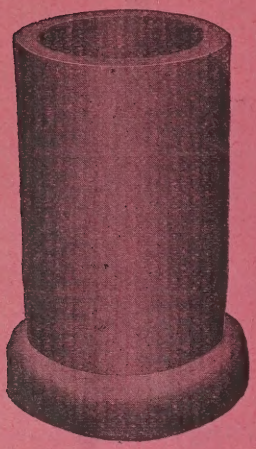
Order Blank for Miracle Pipe Molds

INSTRUCTIONS for ordering Miracle Pipe Molds—Place a check mark in front of size desired, extending the amount in dollars to last column. If you desire Bell Attachments or Bevel and Tongue Attachments, use order Blank on other side.

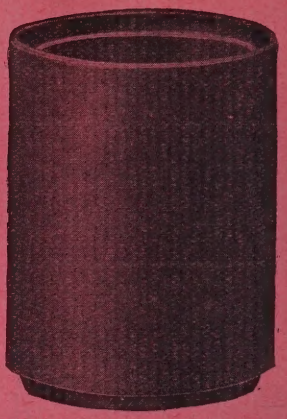
CHECK MARK	SIZE	ARTICLES	WEIGHT	PRICE	AMOUNT
	4-Inch	Straight Tile Mold Complete	20	$16.00	$
	5-Inch	Straight Tile Mold Complete	25	17.00	
	6-Inch	Straight Tile Mold Complete	34	17.00	
	8-Inch	Straight Tile Mold Complete	44	18.00	
	9-Inch	Straight Tile Mold Complete	55	19.50	
	10-Inch	Straight Tile Mold Complete	70	20.00	
	12-Inch	Straight Tile Mold Complete	90	22.00	
	14-Inch	Straight Tile Mold Complete	95	25.00	
	15-Inch	Straight Tile Mold Complete	100	25.00	
	16-Inch	Straight Tile Mold Complete	125	27.00	
	18-Inch	Straight Tile Mold Complete	141	27.00	
	20-Inch	Straight Tile Mold Complete	160	30.00	
	24-Inch	Straight Tile Mold Complete	180	35.00	
	26-Inch	Straight Tile Mold Complete	200	40.00	
	30-Inch	Straight Tile Mold Complete	263	45.00	
	36-Inch	Straight Tile Mold Complete	333	50.00	
				Total, - -	$

For Bell End and Bevel and Tongue Attachments, see opposite side.

Order Blank for Miracle Pipe Moulds



Bell End, and Bevel and Tongue Attachments



Also, please ship the following attachments for pipe moulds.
No Cash Discount on Bell or Bevel and Tongue Attachments.

Check Mark	BELL ATTACHMENTS		PRICE EACH	TOTAL AMOUNT
	1 Set Castings for Outside Castings for Inside	4-inch Bell 4-inch Bell	$1.75 .75	
	1 Set Castings for Outside Castings for Inside	5-inch Bell 5-inch Bell	2.00 .75	
	1 Set Castings for Outside Castings for Inside	6-inch Bell 6-inch Bell	2.00 .75	
	1 Set Castings for Outside Castings for Inside	8-inch Bell 8-inch Bell	2.50 .75	
	1 Set Castings for Outside Castings for Inside	9-inch Bell 9-inch Bell	3.00 .75	
	1 Set Castings for Outside Castings for Inside	10-inch Bell 10-inch Bell	3.00 .75	
	1 Set Castings for Outside Castings for Inside	12-inch Bell 12-inch Bell	3.00 .95	
	1 Set Castings for Outside Castings for Inside	14-inch Bell 14-inch Bell	4.00 1.10	
	1 Set Castings for Outside Castings for Inside	15-inch Bell 15-inch Bell	4.00 1.10	
	1 Set Castings for Outside Castings for Inside	16-inch Bell 16-inch Bell	4.50 1.25	
	1 Set Castings for Outside Castings for Inside	18-inch Bell 18-inch Bell	4.50 1.25	
	1 Set Castings for Outside Castings for Inside	20-inch Bell 20-inch Bell	5.00 1.35	
	1 Set Castings for Outside Castings for Inside	24-inch Bell 24-inch Bell	6.00 1.65	
	1 Set Castings for Outside Castings for Inside	26-inch Bell 26-inch Bell	7.00 2.00	
	1 Set Castings for Outside Castings for Inside	30-inch Bell 30-inch Bell	7.50 3.50	
	1 Set Castings for Outside Castings for Inside	36-inch Bell 36-inch Bell	9.00 4.50	
	TOTAL, - - $			

Check Mark	BEVEL AND TONGUE ATTACHMENTS	PRICE EACH	TOTAL AMOUNT
	4-inch Top Ring..... 4-inch Bottom Ring...	$0.80 .50	
	5-inch Top Ring..... 5-inch Bottom Ring...	.80 .50	
	6-inch Top Ring..... 6-inch Bottom Ring...	.80 .50	
	8-inch Top Ring..... 8-inch Bottom Ring...	.80 .50	
	9-inch Top Ring..... 9-inch Bottom Ring...	.85 .55	
	10-inch Top Ring..... 10-inch Bottom Ring...	.90 .60	
	12-inch Top Ring..... 12-inch Bottom Ring....	.95 .65	
	14-inch Top Ring..... 14-inch Bottom Ring....	1.00 .75	
	15-inch Top Ring..... 15-inch Bottom Ring....	1.05 .80	
	16-inch Top Ring..... 16-inch Bottom Ring....	1.10 .85	
	18-inch Top Ring..... 18-inch Bottom Ring....	1.20 .90	
	20-inch Top Ring..... 20-inch Bottom Ring....	1.30 1.00	
	24-inch Top Ring..... 24-inch Bottom Ring....	1.50 1.15	
	26-inch Top Ring..... 26-inch Bottom Ring....	2.00 1.50	
	30-inch Top Ring..... 30-inch Bottom Ring....	2.25 1.90	
	36-inch Top Ring..... 36-inch Bottom Ring....	2.90 2.55	
	TOTAL. - - $		

The inside castings or bottom rings must remain in tile until tile can be moved.

When no number of inside castings or rings are specified, we will ship five.

Only one set of outside castings or top rings is necessary for making bell-end, or bevel and tongue pipe, as they are instantly removed.

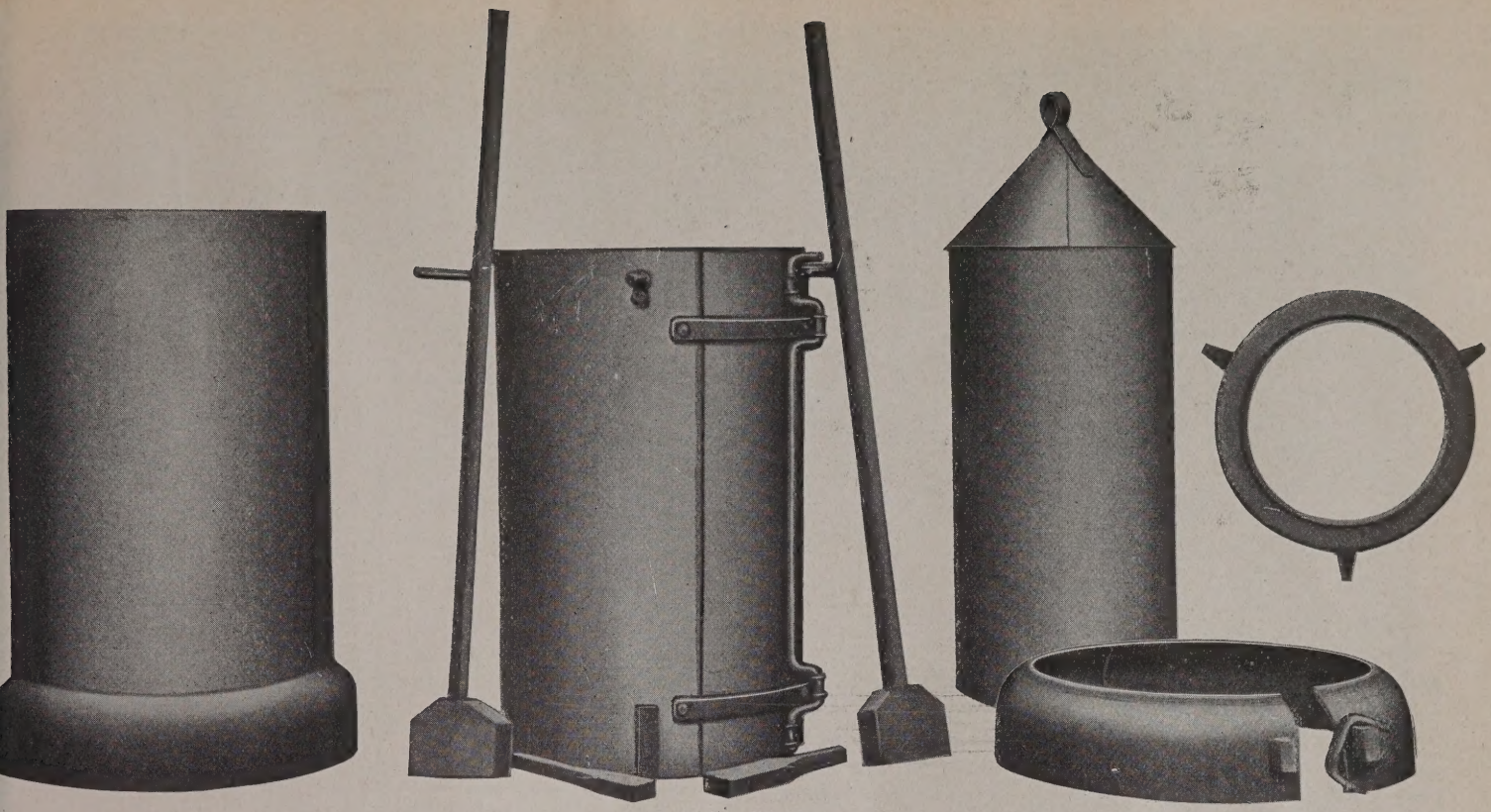


Illustration No. 10.

A COMPLETE OUTFIT, INCLUDING BELL-END ATTACHMENTS.

PRICES OF MIRACLE TILE MOLDS.

For making straight tile. Full instructions sent with each order.

Each size is complete in itself—including inside and outside casing, cone hopper and tampers (two for 15-inch size and larger, one for 12-inch and smaller); 15-inch and larger sizes include also a lifting bar with hooks for removing casing.

4-inch	(18-inch lengths)	Inside measurements.	$16.00	20 lbs.
5-inch	(18-inch lengths)	" "	17.00	25 lbs.
6-inch	(18-inch lengths)	" "	17.00	34 lbs.
8-inch	(18-inch lengths)	" "	18.00	44 lbs.
9-inch	(2-ft. length)	" "	19.50	55 lbs.
10-inch	(2-ft. length)	" "	20.00	70 lbs.
12-inch	(2-ft. length)	" "	22.00	90 lbs.
14-inch	(2-ft. length)	" "	25.00	95 lbs.
15-inch	(2-ft. length)	" "	25.00	100 lbs.
16-inch	(2-ft. length)	" "	27.00	125 lbs.
18-inch	(2-ft. length)	" "	27.00	141 lbs.
20-inch	(2-ft. length)	" "	30.00	160 lbs.
24-inch	(2-ft. length)	" "	35.00	180 lbs.
26-inch	(2-ft. length)	" "	40.00	200 lbs.
30-inch	(2-ft. length)	" "	45.00	263 lbs.
36-inch	(2-ft. length)	" "	50.00	333 lbs.
42-inch	Tile Machine		60.00	
48-inch	" "		70.00	
60-inch	" "		90.00	

	Inside shell.	Outside shell.	Cone.	Hopper.
4-inch	$ 7.50	$ 5.50	$ .75	$ 1.25
5-inch	8.00	6.00	.75	1.25
6-inch	8.00	6.00	.75	1.25
8-inch	8.50	6.25	.75	1.50
9-inch	9.00	6.75	.75	1.50
10-inch	9.75	7.00	.75	1.50
12-inch	10.75	8.00	.75	1.50
14-inch	11.50	8.75	1.00	1.75
15-inch	11.50	8.75	1.00	1.75
16-inch	12.75	9.50	1.00	1.75
18-inch	12.75	9.50	1.00	1.75
20-inch	14.00	10.75	1.25	2.00
24-inch	16.50	12.50	1.50	2.50
26-inch	18.50	15.00	1.75	2.75
30-inch	21.00	17.00	2.00	3.00
36-inch	22.00	20.00	2.50	3.50

Lifting Bars and hooks (used only on sizes 15-inch and larger), $1.00 each. Tampers (one required for each mold 12-inch size and smaller, two required for 15-inch size and larger), $1.00 each.

EQUIPMENT FOR TURNING STRAIGHT PIPE MOLDS INTO BELL-END PIPE MOLDS.

4-inch set of Castings for outside of bell	$1.75
4-inch Casting for inside bell with lugs, each	.75
5-inch set of Castings for outside of bell	2.00
5-inch Casting for inside bell with lugs, each	.75
6-inch set of Castings for outside of bell	2.00
6-inch Casting for inside bell with lugs, each	.75
8-inch set of Castings for outside of bell	2.50
8-inch Casting for inside bell with lugs, each	.75
9-inch set of Castings for outside of bell	3.00
9-inch Casting for inside bell with lugs, each	.75
10-inch set of Castings for outside of bell	3.00
10-inch Casting for inside bell with lugs, each	.75
12-inch set of Castings for outside of bell	3.00
12-inch Casting for inside bell with lugs, each	.95
14-inch set of Castings for outside of bell	4.00
14-inch Casting for inside bell with lugs, each	1.10
15-inch set of Castings for outside of bell	4.00
15-inch Casting for inside bell with lugs, each	1.10
16-inch set of Castings for outside of bell	4.50
16-inch Casting for inside bell with lugs, each	1.25
18-inch set of Castings for outside of bell	4.50
18-inch Casting for inside bell with lugs, each	1.25
20-inch set of Castings for outside of bell	5.00
20-inch Casting for inside bell with lugs, each	1.35
24-inch set of Castings for outside of bell	6.00
24-inch Casting for inside bell with lugs, each	1.65
26-inch set of Castings for outside of bell	7.00
26-inch Casting for inside bell with lugs, each	2.00
30-inch set of Castings for outside of bell	7.50
30-inch Casting for inside bell with lugs, each	3.50
36-inch set of Castings for outside of bell	9.00
36-inch Casting for inside bell with lugs, each	4.50

SEWER TILE FOR WELL CASING.

Cement tile have found a very good market in the use of well casing.

The low cost of MIRACLE Cement Casing or Curbing gives you the vital argument which cannot fail to secure the business wherever casing or curbing is used. In many sections of the country sanitary casing is vital to good health. The great scourge of typhoid may be overcome by protecting your drinking water. The majority of cases may be traced directly to impure drinking water where wells have been bored through strata of questionable quality and where the surrounding conditions demand casing to insure absolute purity.

Bevel and Tongue Attachment

MIRACLE BEVEL AND TONGUE ATTACHMENT.

Miracle Bevel and Tongue Attachment adds greatly to the completeness of the Miracle Outfit for making cement sewer pipe and drain tile. It consists of two bevel rings. The bottom ring beveled on the inside and the top ring beveled on the outside forming the standard bevel and tongue pipe or tile as shown in the illustration.

ADVANTAGES.

The Bevel and Tongue Attachment enables one to lay a line of pipe very easily, and hence very economically, at the same time the best results can be obtained.

It is the best possible form of pipe for well casing, both because it makes a better casing and because it is more easily and economically laid. In using a 24-inch pipe for this purpose it requires a bore 4 inches less in diameter than the 24-inch bell end pipe. This alone is a great saving.

There is no chance for poorly connected or leaky joints.

The expense of making this form of pipe is no greater than in making the ordinary straight tile. The little additional labor is easily balanced by the saving in material.

They command larger prices, hence the margin of profit is greater.

PRICES.

4-in.	Top Ring	$ .80	16-in.	Bottom Ring	.85
4-in.	Bottom Ring	.50	18-in.	Top Ring	1.20
5-in.	Top Ring	.80	18-in.	Bottom Ring	.90
5-in.	Bottom Ring	.50	20-in.	Top Ring	1.30
6-in.	Top Ring	.80	20-in.	Bottom Ring	1.00
6-in.	Bottom Ring	.50	24-in.	Top Ring	1.50
8-in.	Top Ring	.80	24-in.	Bottom Ring	1.15
8-in.	Bottom Ring	.50	26-in.	Top Ring	2.00
9-in.	Top Ring	.85	26-in.	Bottom Ring	1.50
9-in.	Bottom Ring	.55	30-in.	Top Ring	2.25
10-in.	Top Ring	.90	30-in.	Bottom Ring	1.90
10-in.	Bottom Ring	.60	36-in.	Top Ring	2.90
12-in.	Top Ring	.95	36-in.	Bottom Ring	2.55
12-in.	Bottom Ring	.65	42-in.	Top Ring	3.75
14-in.	Top Ring	1.00	42-in.	Bottom Ring	3.25
14-in.	Bottom Ring	.75	48-in.	Top Ring	4.75
15-in.	Top Ring	1.05	48-in.	Bottom Ring	4.10
15-in.	Bottom Ring	.80	60-in.	Top Ring	6.00
16-in.	Top Ring	1.10	60-in.	Bottom Ring	5.25

OPERATION.

The bottom ring is placed at the bottom of the mold before filling and must be left in place for 24 hours after the mold proper is removed. In order to release the ring of the Bevel and Tongue Attachment the tile is turned upon the edge of the ring (not of the tile), which means that the cement need be only hard enough to hold the tile together when laid upon its side.

The top ring is equipped with handles to enable the operator to turn it back and forth until it shapes the bevel on the upper end of the tile. It is removed immediately before removing the shells.

Only one top ring is required with each size outfit and about ten bottom rings are sufficient for the average beginner.

Acorn Ridge, Mo., May 5, 1908.
Miracle Pressed Stone Co., Minneapolis, Minn.

Dear Sir:—Having bought the tile machine you sold E. M. Tucker and having been working it today, will say, it can't be beat, as I am in the well business it just fits my business exactly, and am now figuring on a land tile of about four inches and so find enclosed stamps for 25 cents for which send me your Big Catalogue for which I may select what I need as I expect to send for more bottom rings in the near future. And at that time will enclose a testimonial for which you may use if you like.

Thanking you for your kindness, I beg to remain,

Yours truly. C. E. BENTON,
Stoddard Co. Acorn Ridge, Mo.

Townsend, Mont., April 20, 1907.
Miracle Pressed Stone Co., Minneapolis, Minn.

Gentlemen:—Please ship to Archie McMillan, Winston, Mont., the following:

1 8-in. Straight Tile Machine $27.00

Yours truly, BROADWATER COUNTY,
Per John Doherty.

Townsend, Mont., June 13, 1907.
Miracle Pressed Stone Co., Minneapolis, Minn.

Gentlemen:—Please ship to John Doherty, Townsend, Mont., the following:

1	8-in. Straight Tile Mold	$18.00
1	12-in. " "	22.00
1	24-in. " "	35.00
	Yours truly,	$75.00

BROADWATER COUNTY, Per John Doherty.

Fort Shaw, Mont., June 25, 1907.
Miracle Pressed Stone Co., Minneapolis, Minn.

Gentlemen:—Please ship to S. B. Robbins, Vaugn, Mont., the following:

1	8-in. Straight Tile Machine	$18.00
1	12-in. " " "	22.00
1	18-in. " " "	27.00
1	24-in. " " "	35.00
1	36-in. " " "	50.00
2	8-in. Outside Castings	2.50
2	12-in. " " "	3.00
2	18-in. " " "	4.50
2	36 in. " " "	9.00
10	8-in. Inside Pallets at 75c	7.50
10	12-in. " " at 95c	9.50
10	18-in. " " at $1.25	12.50
10	24-in. " "	16.50
10	36-in. " "	45.00
2	24-in. Outside Castings	6.00
	Yours truly,	$226.00

U. S. RECLAMATION SERVICE,
Per C. B Robbins

Tile Yard at Grand Junction, Iowa.

Conejos, Colo., May 16, 1907.

Miracle Pressed Stone Co., Minneapolis, Minn.

Gentlemen:—Please ship to H. C. Mullins, County Commissioner, Alamosa, Colo., the following:

1 36-in. Straight Tile Mold	$50.00	
1 20-in. " " "	30.00	
	$80.00	
Less 2 per discount	1.60	$74.40
1 36-in. Top Ring (bevel and tongue)		2.90
1 20-in. " " "		1.30
5 36-in. Bottom Rings (bevel and tongue) at $2.25		12.75
5 20-in. " " " " at 1.00		5.00
1 Miracle Hand Mixer	110.00	
Less 2 per cent discount	2.20	107.80
		$208.15

Yours truly,
HARRY A. RUSSELL.

By order of Board of County Commissioners, Conejos County.

Conejos, Colo., July 5, 1907.

Miracle Pressed Stone Co., Minneapolis, Minn.

Gentlemen:—Please ship the following to H. C. Mullins, Alamosa, Colo.

1 12-in. Straight Tile Mold	$22.00	
Less 2 per cent discount	.44	$21.56
1 12-in. Top Ring (bevel and tongue)		.95
20 12-in. Bottom Rings (bevel and tongue) at 65c.		13.00
20 12-in. " " " " at $1.00		20.00
12 36-in. " " " " at $2.55		30.60
		$86.11

Yours truly,
HARRY A. RUSSELL.

By order of Board of County Commissioners, Conejos County.

COST $90.00 PER THOUSAND.

Pocahontas, Iowa.

Miracle Pressed Stone Co., Minneapolis, Minn.

Gentlemen:—Since getting your tile outfit, I have sold 1,600 feet of 12-inch tile, and I think I shall be able to work up a nice business in a short time. It costs about $90.00 per thousand feet to make 12-inch tile. I make my mixture one to three-and-a-half; sand costs $1.00 per yard; labor, $1.50 per day. There is lots of figuring here on cement work, and I have sold Miracle Hollow Blocks for a number of foundations for houses. Yours very truly,
J. O. BURINGTON & CO.

Fort Morgan, Colo., April 18, 1908.

Miracle Pressed Stone Co., Minneapolis, Minn.

Dear Sirs:—Since we have put in your tile machines, we have learned what a loss there was to the stone business without them. They do all, and more, than you recommend for them. Two men in our factory are making more tile than you allow for three men, and mix by hand.

I sold a drive crossing to a man in town, and he placed a straight 15-inch tile above ground in the irrigating ditch, and it came a good six inches above ground level, and shoveled four inches of dirt over the top. The next day he hauled three loads of hay over the tile. Two of the loads weighed one and one-half tons each. Now they are hauling large loads of lumber over it to build a new house, and we have a contract from the city to furnish them all their tile.

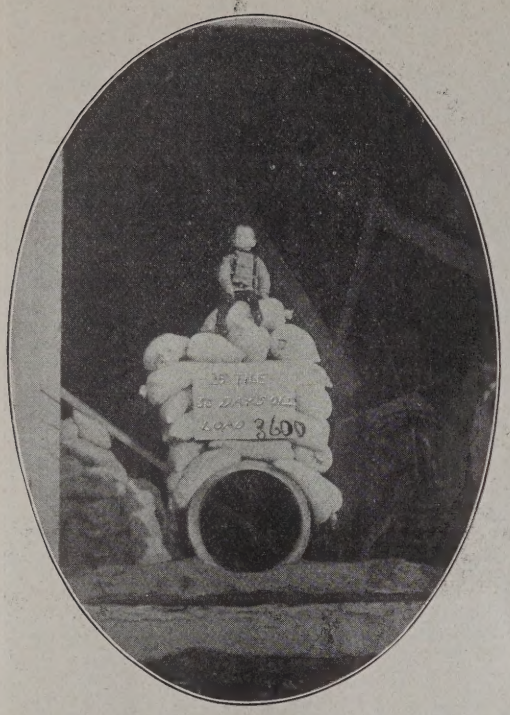
Respectfully,
(Signed) COLE & CHAMBERS.

Edmond, Okla., June 23, 1906.

Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentlemen:—Your letter at hand. Can say that we are well pleased with tile molds. We have about four hundred 12-inch and 18-inch made up, and have a good trade on them.

Respectfully,
THOS. HOLLIS LUMBER CO.



WE have been very modest and conservative about our claims for Miracle sewer pipe molds, preferring to get the business of our customers, that of making cement pipe, well developed and on a firm footing before pushing the sale of the molds.

After having had these molds on the market something over two years, we take a just pride in pointing to something over two thousand successful customers operating these molds. Realizing that a pleased customer is our best possible advertisement, we have kept just this one fact constantly in mind, and at no small expense to ourselves, we have developed a steady and growing demand for cement pipe, and in nine cases out of ten our customers tell us that our estimates of the capacity of our sewer pipe molds are too small, and our estimates of the cost of producing the pipe are too high. In many instances customers have advised us that they were producing as many pipe with two men as we estimate can be produced with three men, which, of course, reduces the labor cost from our estimate just one-third.

If you get into the sewer pipe business, you do not have to invest in a lot of machinery and equipment. One or two sizes of molds with a half dozen or ten inside pallets is sufficient to show you just what you can do with the business. Other equipment for additional sizes can be added as the demand for them comes up.

The twelve and twenty-four-inch pipe have proven the most popular sizes, although we have sold many outfits for making pipe as high as thirty-six and forty-two inches in diameter.

An outfit for making twenty-four-inch pipe with ten inside rings costs you about $57.50. Under average conditions, it will cost you to make twenty-four-inch pipe about thirty-seven cents per foot. The average retail price of this pipe, in different sections of the country, is $1.25 per foot, so that if you sell fifty pieces of pipe, you have your investment returned and a profit of some thirty odd dollars besides.

BETTER START TO-DAY USING

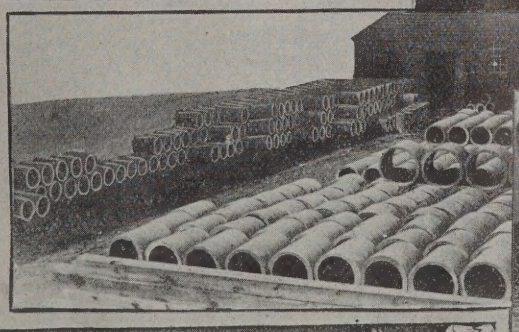
Miracle More-Money Molds

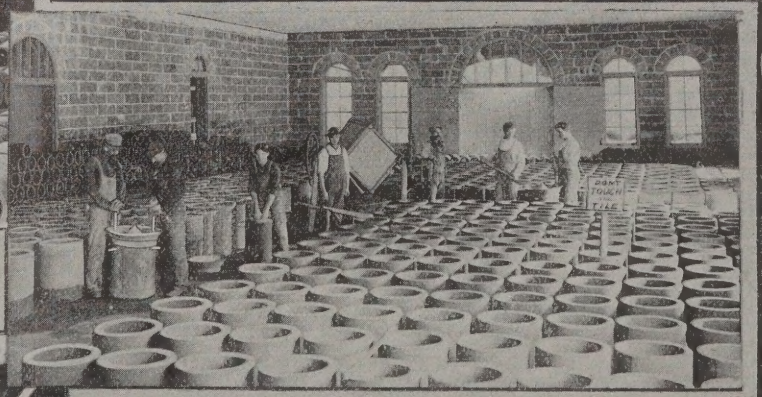
VIEWS OF CEMENT TILE FACTORY

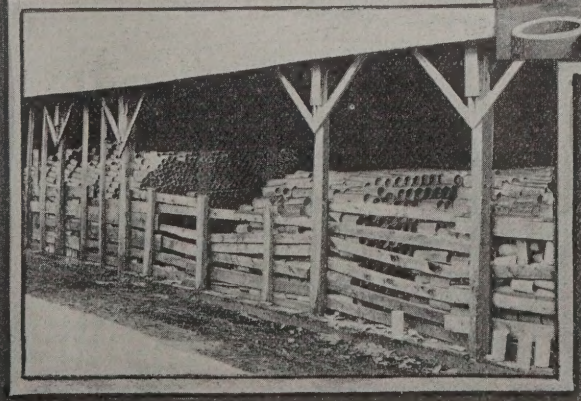
of H. C. Shadbolt
Emmetsburg, Iowa.

FACTORY BUILT OF "MIRACLE" BLOCKS
40 BY 100 FEET

H. C. SHADBOLT
PROP'R.







Emmetsburg, Iowa Sept. 6th, 1906.

Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentlemen,

I am glad to comply with your request and inclose photos of my plant. At the present time I am making both large and small tile. I am working your large cement machine to its greatest capacity, as I have all I can do for the balance of the year in the large tile alone. I have one contract which calls for 19000 ft of the large tile. The moulds are working fine and the cement tile are giving general satisfaction, I am,

Very truly yours,

H C Shadbolt

MIRACLE COLLAPSIBLE FORMS
FOR CONCRETE CULVERTS

THEY WILL PAY FOR THEMSELVES MANY TIMES EVERY SEASON.

This Miracle
Collapsible Form
Is the Only Device
Required to Build Culverts

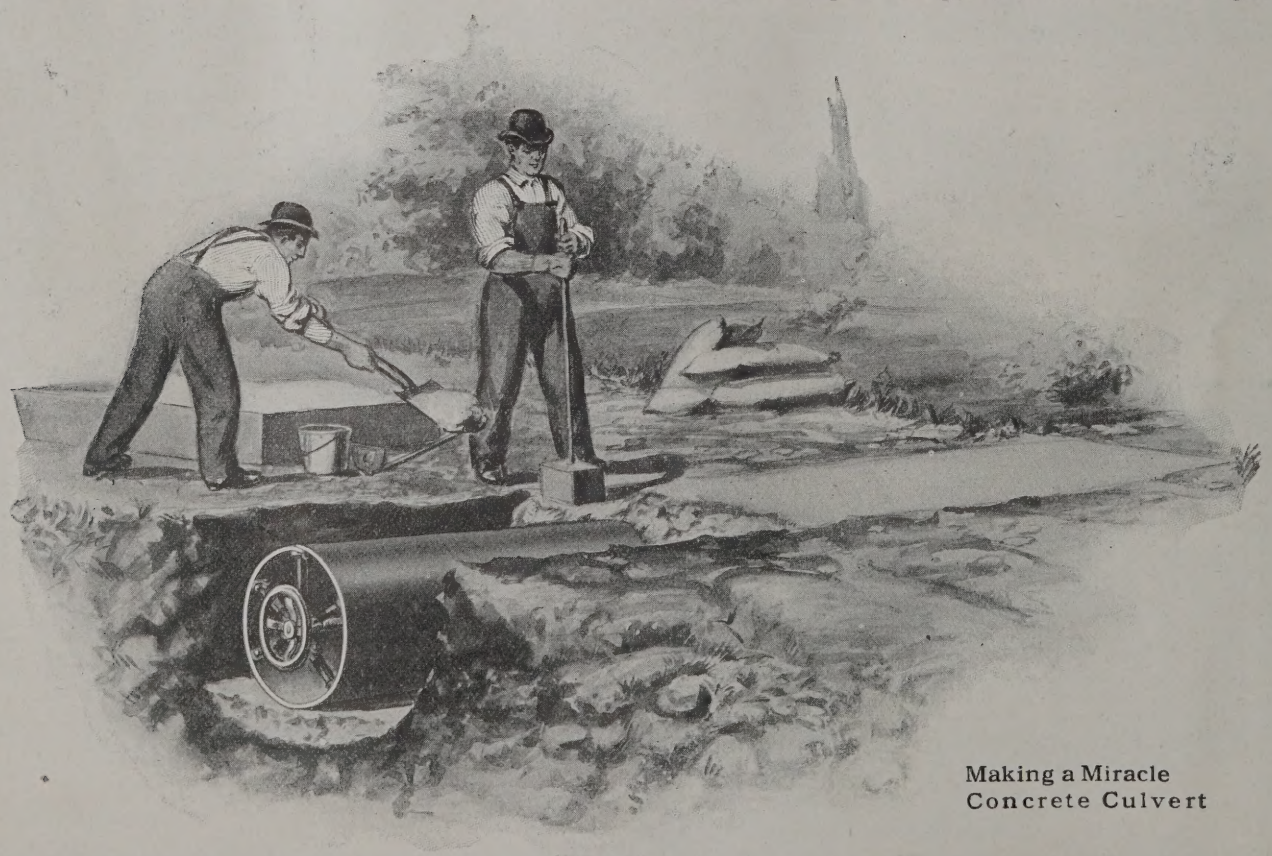
In the multifarious highway improvements that are being made throughout the country, we find a large demand for Concrete culverts. The old-fashioned vitrified clay pipe culvert has been found insufficient for this purpose on account of filling with water from time to time and freezing and breaking during the winter months.

The Miracle form permits of the use of as heavy a wall of concrete as may be required and also of the use of reinforcing metal, if desired. The trench is dug as shown in the illustration and the concrete bottom put in place and the forms are then laid in and the concrete tamped around them and finished to the desired height and thickness, and then the forms are collapsed by turning the wheel at the end of the form, as shown in the illustration, and the forms are withdrawn.

The forms are furnished in any diameter according to specifications up to 4 ft. and in any length from 6 ft. to 16 ft. For a 12 ft. culvert it is best to use two 6 ft. forms, withdrawing one from each end, for a 16 ft. culvert, use two 8 ft. forms and for a 20 ft. culvert, two 10 ft. forms.

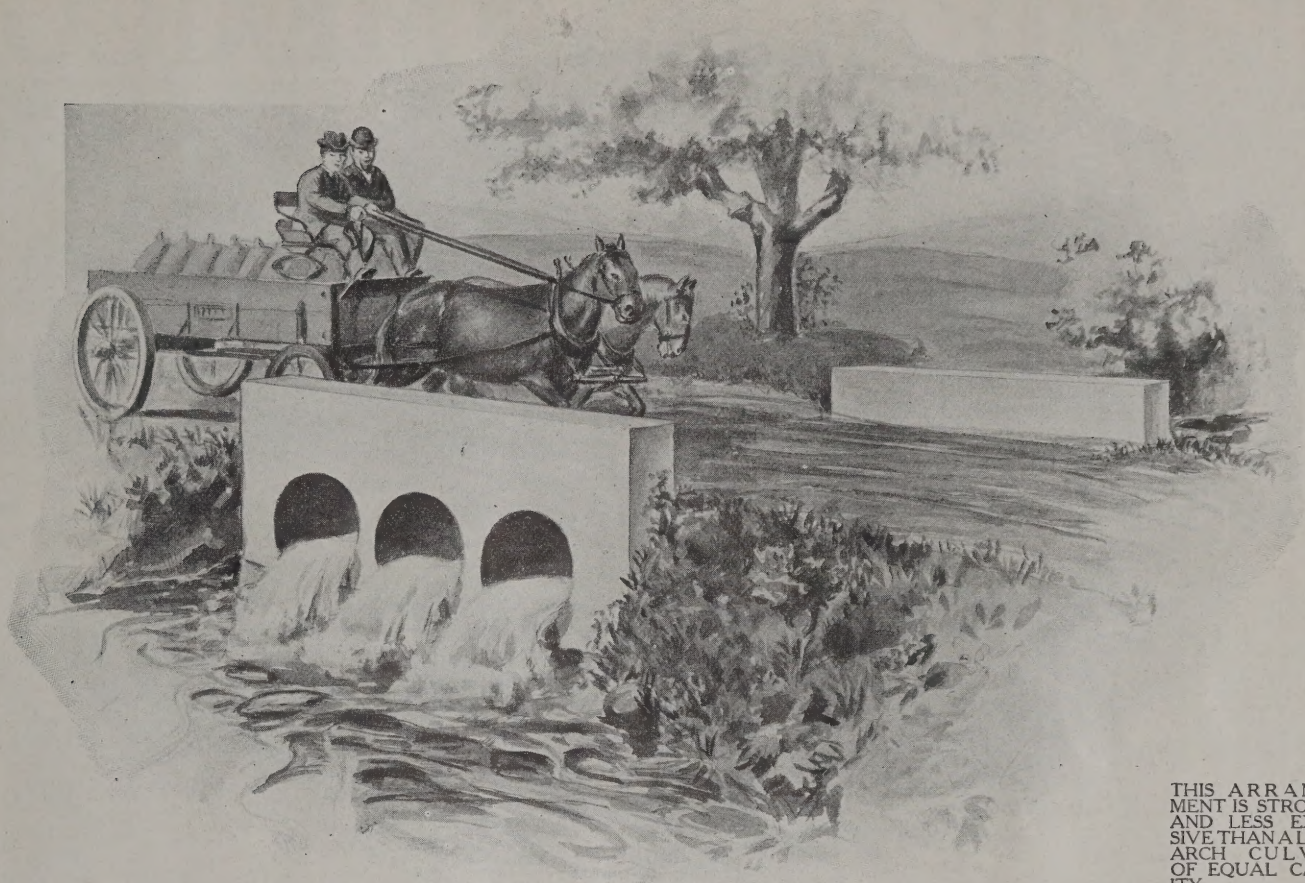
These forms are well and substantially made, the price is so low that it permits of the construction of concrete culverts at a very small expense, besides it will last forever. Where one culvert is of insufficient size to carry the water and it is desired to keep the depth of the same down to aminimum, two or three outlets may be made for the water, as shown in illustration No. 3.

Concrete culverts eliminate danger from accidents. Thousands of dollars are paid out every year by County and Highway Commissions for damages resulting from defective wooden bridges.



Making a Miracle
Concrete Culvert

MIRACLE COLLAPSIBLE FORMS FOR CULVERTS—Continued



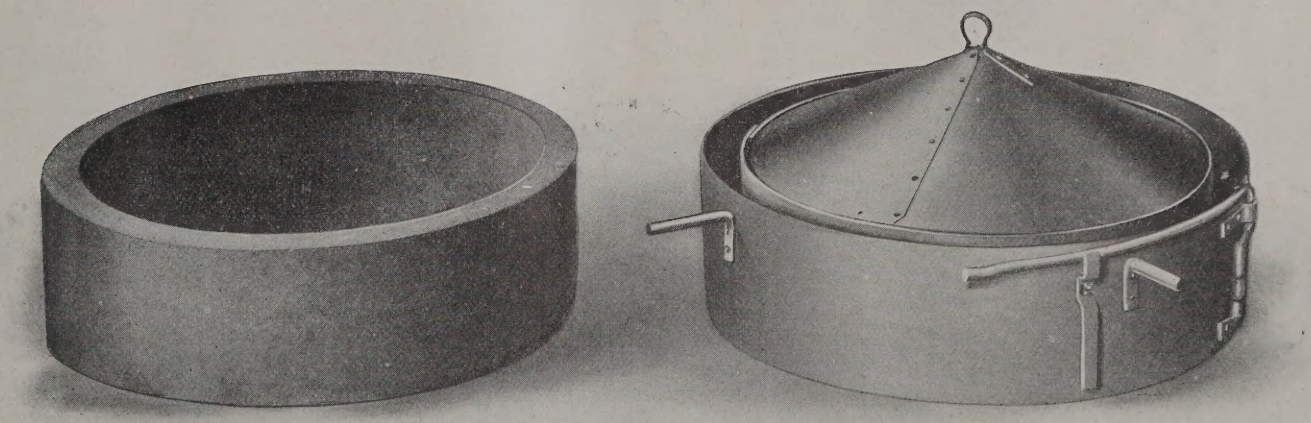
THIS ARRANGEMENT IS STRONGER AND LESS EXPENSIVE THAN A LARGE ARCH CULVERT OF EQUAL CAPACITY.

PRICES OF MIRACLE COLLAPSIBLE FORMS

1 ft.	Diameter	6 ft.	long,	.....	Price	$32.00	Weight	107	3 ft.	Diameter	8 ft.	long,	.....	Price	$ 88.00	Weight	455
2 "	"	"	"	"	.....	"	49.50	"	258	4 "	"	"	"	"	.....	"	154.00	"	690
3 "	"	"	"	"	.....	"	66.00	"	314	1 "	"	10 "	"	.....	"	53.50	"	176
4 "	"	"	"	"	.....	"	118.00	"	494	2 "	"	"	"	.....	"	82.50	"	433
1 "	"	8 "	"	.....	"	42.75	"	145	3 "	"	"	"	.....	"	110.00	"	527
2 "	"	"	"	"	.....	"	66.00	"	341	4 "	"	"	"	.....	"	190.00	"	839

These prices are net F. O. B. Minneapolis.

MIRACLE CONCRETE SLEEVE JOINT FOR IRRIGATION PIPE



In the great irrigation projects in the United States it is often necessary to carry water under very heavy internal pressure for the pipe line. From actual work done, we find that the sleeve joint makes a much stronger joint than either the bell or the bevel and tongue connection for this particular purpose.

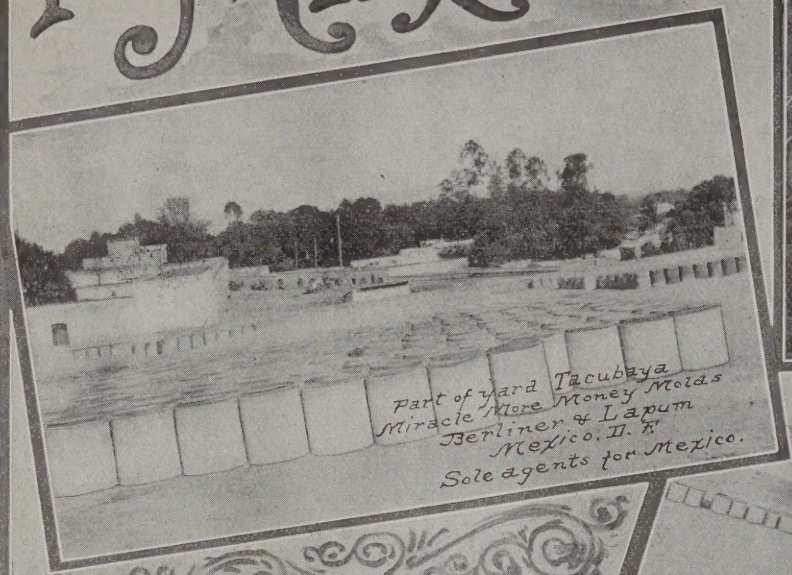
The sleeve itself is a piece of straight concrete pipe 8" long and with an inside diameter large enough to permit the ends of two straight lengths of pipe to be inserted into it. It is grooved so that with the use of a cement mortar a water tight connection is had. The sleeve can be reinforced with metal the same as the full length pipe, thus securing double strength for the joint, which makes the joint the strongest part of the pipe line.

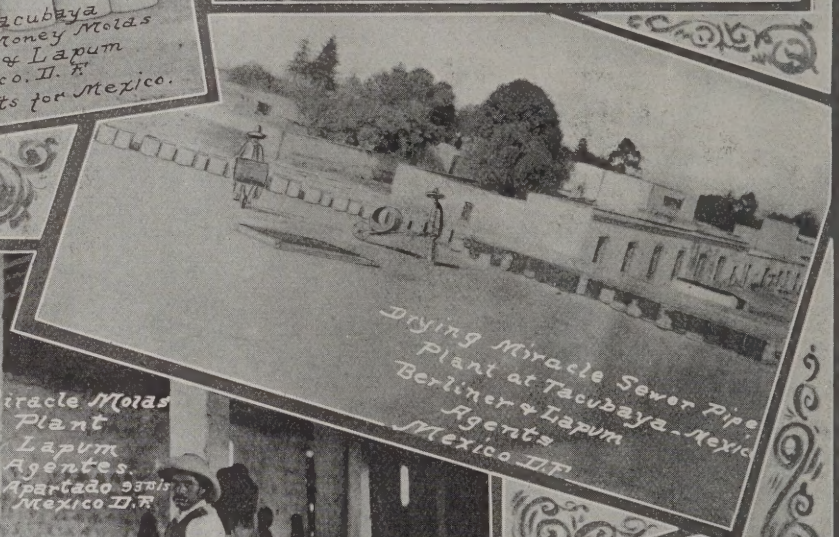
The sleeve mold being constructed on the same principle as the straight tile mold, is immediately removable from the concrete, and for that reason it does away entirely with a large investment in bell and bevel and tongue attachments.

The price of the sleeve mold for any size of pipe is one-half the price of the straight tile mold of that size.

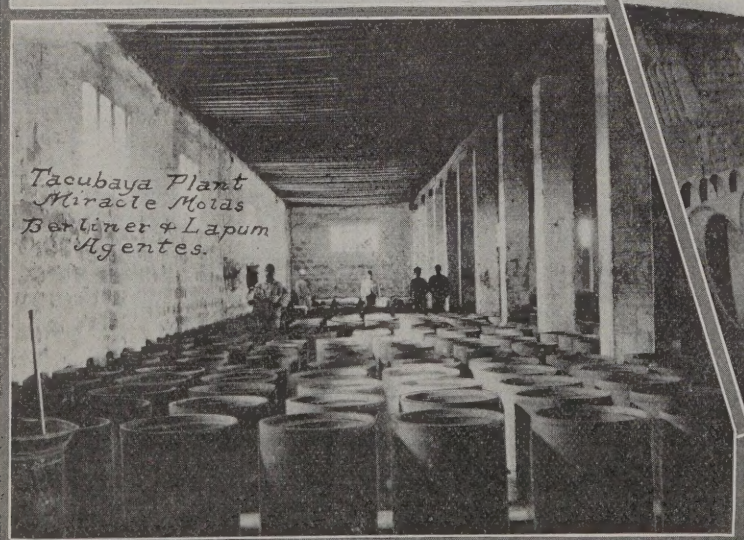
For specifications for reinforcing concrete pipe, see table on page 105.

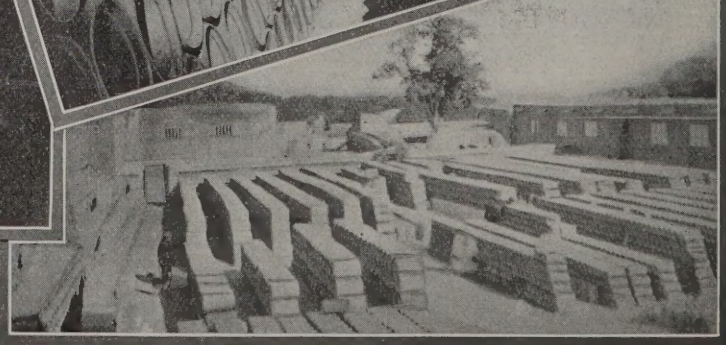
The MIRACLES IN MEXICO





This is one of the plants which in 1907 started making pipe for 500 miles of Ditch





Mexican labor readily adapts itself to making Miracle Concrete Products.

MIRACLE MOLDS ON A MEXICAN JOB.

Junta Directiva de las Obras de Provision de Aguas
JOSE I. LIMANTOUR, Presidente.
LEANDRO FERNANDEZ, Vice Presidente.
VOCALES:
GABRIEL MANCERA. PABLO MACEDO.
ANDRES ALDASORO. GMO. BELTRAN Y PUCA.
MANUEL MARROQUIN Y RIVERA, DIRECTOR TECNICO.

Oficina del Director Tecnico
ESQUINA DE LAS CALLES
LAFRAGUA Y AV. DEL PALACIO LEGISLATIVO Nos
MEXICO
TELEFONO Nº 815

México, 20 de Abril de 1908

Sres. Berliner & Lapum.

Ciudad.

Muy señores míos:

Me refiero á la carta de Uds. de fecha 14 del actual, y en contestación, tengo el gusto de manifestarles que acepto las proposiciones que se sirven hacerme para la entrega de 20 moldes, según la ilustración núm 6 de la "Miracle Pressed Stone Company" Minn.

Los moldes serán fabricados con lámina del núm 10; entregados seis semanas después de su embarque, el cual se verificará 10 días después de la fecha de la presente.- El precio de $ 150.00 plata, se refiere á cada uno de los moldes citados, entregados en nuestros talleres de la Condesa,- á entera satisfacción.-

De Udes., como siempre, atmo. amigo y S. S.-

M. Marroquin y Rivera

TRANSLATION.

Mexico City, April 20th, 1908.

Messrs Berliner & Lapum,
City.

My Dear Sirs:

In reference to your letter of April the 14th, and in answer to same beg to state that I have much pleasure in accepting the propositions contained therein for the delivery of 20 Cores as per illustration No. 6 of The Miracle Pressed Stone Co., Minneapolis, Minn.

The Cores are to be manufactured of No. 10 sheet steel, they are to be delivered here six weeks after delivery to railroad in Minneapolis and they are to be delivered to the railroad ten days after the date of this letter. The price of same to be $150.00 Mexican Currency Each delivered at our plant in Condesa to our entire satisfaction.

I am as always your friend & Etc.

(Signed) M. MARROQUIN y RIVERA.

MIRACLE ORDERS FROM MEXICO.

We build Miracle Tile Molds on the metric system for use in countries where this is the customary standard of measure. All orders for Mexico are on this order.

The Cia Bancaria de Obras y Baires Raices of Mexico, D. F. sent an expert engineer to Europe to investigate Tile molds, also throughout the United States. This engineer did not find a satisfactory machine in Europe or United States until being attracted by our advertisement in the Saturday Evening Post, made a trip to Minneapolis. The result was that the following order, dated June 24, 1907, was placed with the Miracle Pressed Stone Co., inside of three hours from the time he was taken to our exhibit room, and the molds were paid for cash in advance through the well known Barber Asphalt Company of Philadelphia, Penn. The following initial order and repeat orders are overwhelming proof that Miracle Tile Molds stand head and shoulders ahead of any tile mold built in the present age. The Mexican government order reproduced on this page was also placed with us on the strength of the great satisfaction the molds sold to the Cia Bancaria de Obras y Baires Raices had given.

The first order we received for this Mexican business was for 6 sets of Tile Molds of 11 sizes from 15 centimeters up to 70 centimeters, which with auxiliaries billed June 24, 1907, amouting to

				$2950.00
2nd	Order,	Sept.	16, 1907	$1164.00
3rd	"	Oct.	1, "	226.50
4th	"	Oct.	7, "	22.75
5th	"	Nov.	8, "	11.50
6th	"	Dec.	13, "	520.00
7th	"	Feb.	20, 1908	100.00
				$4994.75

(From the Mexican Herald, April 27, 1908.)

CONCRETE BUILDING BLOCKS FINDING FAVOR IN MEXICO

A few months ago, upon request from the American department of commerce and labor, the department of state instructed the various consular officers to report on the cement industry and the machinery employed in its manufacture. Among the reports received the following from Consul General A. L. M. Gottschalk, of Mexico City, covering the cement industry in the republic, will be interesting to American manufacturers:

There is practically an unlimited future for the use of concrete as a building material in this city as well as in the other large cities of the Mexican republic, especally for the hollow concrete block. There are, I am told, in the capital city, only some 300 houses built of concrete, but this comparatively small number is due to the fact that the material only began to find general acceptance with architects and builders a very short time ago, much prejudice having been felt against it owing to the fact that some years ago certain speculators undertook to launch upon the market concrete blocks of so poor a quality that they were universally condemned. This prejudice has, however, entirely disappeared. A very telling ocular demonstration of the strength and solidity of cement-block construction was afforded in this city in April, 1907, when an earthquake, lasting two and one-half minutes, and causing a recorded gway of sixty centimeters in certain buildings in town, left utterly unscathed a residence building of concrete block, while countless numbers of neighboring houses were more or less damaged.

Crude Methods of Local Makers.

There are more than twenty manufacturers of concrete blocks or ornamental work in this city alone. The methods in use among them are usually of the crudest, with the exception of two concerns which import American molds. The system generally in vogue is to have molds made of plaster of paris into which the cement is run, after which the mold is pried or chipped off. Many manufacturers make their molds of a sort of elastic glue, commonly called "cola," whose composition I could not ascertain, which permit them to turn out numbers of very artistic undercut or scrolled pieces.

The importation of fancy molds, which covers only a few years' time, and which, I am informed, has been almost exclusively from the United States, has not amounted to more than 1,500 Mexican pesos ($748) United States currency). A much greater number would of course be imported if our factories could turn out molds of the standard size in use in this country. As an example, the standard balustrade of balconies, and cornices in the United States is between 15 and 18 inches high, with a diameter of 5 inches; in Mexico these balustrades are invariably 60 centimeters in height (approximately 24 inches). It may, however, be said that ornamental cement work is gradually supplanting the old-fashioned carved stone work which characterized all Mexican buildings of any pretensions until comparatively recently.

Molds From United States.

Imported molds for cement blocks are practically all of American make, though there is an occasional French or German one to be seen. The chief difficulty which works against the American manufacturer of cement block molds who desires to export these to Mexico, is the fact that American molds are never made to conform in size to the standard (metric) measurements in use by Mexican architects and builders. Moreover the Mexican architect, still bound by the traditions of old Spanish engineering, is much inclined to believe that a wall less than 16 inches thick can hardly be of sufficient strength to stand. Up to September, 1907, about $50,000 United States currency worth of these molds had been imported, chiefly for use in this city and vicinity.

Sewer Pipes, Sidewalks and Roofing.

An important item in recent importations of concrete machinery from the United States has been sewer-pipe molds, made by a firm of Minneapolis, Minn. I am told that importations of this article to the value of $9,960 United States currency have entered the country within the year.

Concrete sidewalks are in use in practically every large city in the republic, and the older-fashioned stone-flag sidewalks are gradually being relegated to such towns as are still unfortunate enough not to possess railroad transportation for the carrying of cement.

Concrete roofing, made in slabs 1½ feet by 3, 4 inches thick and ribbed and joined together by asphalt joints, are made here by the firm of J. W. Zwicker and company, under a United States and Mexico patent.

Future of Concrete in Mexico.

With reference to the future of concrete construction, whether it be either in the form of concrete block or reinforced concrete construction, it is very well seen that this new class of building material and construction is in its infancy, but it is very evident that it is going to take both time and patience in order to gain the confidence of both engineers and architects and builders, with reference to the strength and stability of both concrete blocks and reinforced construction. As the fact must not be overlooked of existing conditions, such as earthquakes, which are very common in this country; but as a whole it is the writer's belief that one year from today there will be 50 per cent more concrete used than there is at the present time.

Three Wagon Loads Off for Mexico.

THE EASE WITH WHICH Ts, Ys AND CONNECTIONS AND SPECIALS ARE MADE OF MIRACLE CONCRETE PIPE

The making of Ts, Ys and Connections, and other special pipe is, like all other parts of the cement pipe business, a very simple matter when you understand how to go about it. We give herewith several views, showing the different steps to be taken in making special pipe, and if you follow these simple instructions, you cannot go wrong.

These Specials always sell at a very handsome profit, and require no extra investment on your part to make them. They are made from regular stock pipe made on your regular outfits. In the sewer pipe market a T or Y joint usually sells at from 2 to 4 times the price of a regular length of the main pipe. You have no extra investment in equipment and the only extra cost to you is the labor of making, which, as we show you herewith, is a very small matter.

The first thing we want to caution you about is to be careful. While a concrete pipe is not as easily broken as a vitrified clay pipe, at the same time, if you go at it with a sledge hammer and strike heavy blows, you will break it to pieces; but, if you will be careful, you will experience no breakage in making this special pipe.

Fig. 1.

By way of an illustration: Suppose you wish to make a T joint for joining a 10 inch sewer pipe to a 24 inch main sewer. For this purpose you should have some pieces of 10 inch pipe, made not over 12 inches in length, that is 12 inches above the bell. Select a good, sound, well tamped 24 inch pipe from your stock that is two or three weeks old. It will cut best at this time, but can be cut at any time and at any age. Bed the large pipe in sand, so as to keep it from rolling, and give it a soft bed to lie in, take the small section of pipe to be joined to it, cut it so that the end of it will fit the outer shell of the large pipe at right angles. Set the small pipe on the large pipe and with a pencil or sharp instrument, describe the circular line on the outside of the large pipe around the end of the small pipe, where you wish to cut the hole. Wet the large pipe thoroughly then, with hammer and chisel, cut a line around the hole you wish to make about half an inch inside of the line that you have drawn. Keep on cutting carefully until you get about half way through the pipe all the way around, then cut the balance of the way through in three or four places about half way around the hole, and tap the piece gently from the inside, and the piece will come out easily, just where it has been cut.

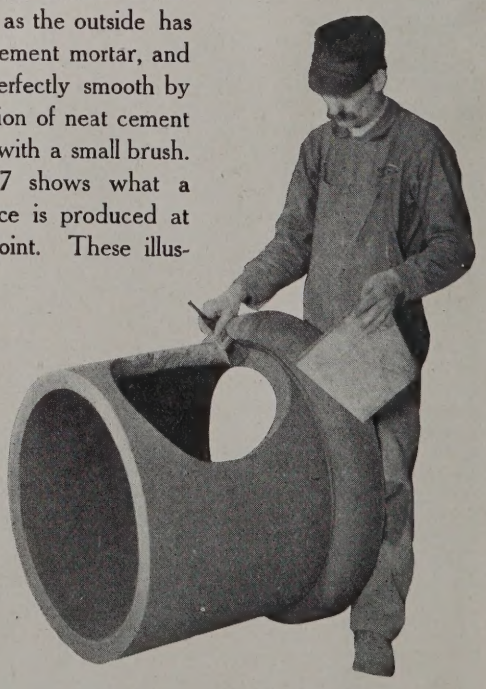
Now trim or rim out this hole with a chisel as shown in Figure 1 until it fits the pipe that you wish to insert. After this hole has been trimmed so the small section will slide in easily, wet the end of the small pipe to be joined and the large pipe where it has been cut thoroughly, and go over it with a solution of neat cement of about the consistency of thick cream, a small brush being used as shown in Figure 2. Then insert the small section of pipe in the opening where it is to be joined to the large pipe as shown Fig. 3 and brace from the inside so as to hold it in position, being careful that the end of the small section does not project beyond the inside of the shell of the larger pipe. After this has been firmly braced in position, mix up a cement mortar so it will handle easily with a trowel, about one part of cement and one part of fine sand, and fill around the junction, as shown in Fig. 4. This junction at the angle where the two outside surfaces meet can be built up and strengthened in this manner with cement mortar to give any required strength, and it really becomes the strongest part of the pipe. Illustrations No. 5 and 6 show how the bond between the two different sizes is strengthened by this building up process.

This joint is then wiped with a solution of neat cement, the same as was used at the start, the same as a plumber wipes a lead joint. In this manner a very strong and durable, as well as neat-looking, pipe is produced.

The next day the braces from the inside can be removed and the inside plastered, the same as the outside has been, with a rich cement mortar, and the inside made perfectly smooth by the use of the solution of neat cement and water applied with a small brush.

Illustration No. 7 shows what a nice, smooth surface is produced at the inside of the joint. These illustrations Nos. 5 and 6 show a 24 inch two foot length of pipe with 10 inch connection. Under ordinary conditions the 24 inch pipe costs about 74c and the 10 inch with bell about 23c.

Fig. 2.



HERE ARE THE PRICES WITH WHICH MIRACLE CONCRETE PIPE COMPETES

WESTERN PRICE LIST.
Vitrified Pipe.

Size of pipe Inside diameter.	Straight pipe Price per foot.	T & Y Junctions Price each.	Dbl. junctions and breeches Price each.
24 inch	$2.50	$10.00	$15.00
22 "	2.10	8.40	12.60
20 "	1.75	7.00	10.50
18 "	1.50	6.00	9.00
15 "	1.00	4.00	6.00
12 "	.75	3.00	4.50
10 "	.60	2.40	3.60
9 "	.50	2.00	3.00
8 "	.45	1.80	2.70
6 "	.30	1.20	1.80
5 "	.25	1.00	1.50
4 "	.20	.80	1.20
3 "	.15	.60	.90

Discounts on above prices 55 to 65 per cent at wholesale in carload lots.

"Prices on 27, 30, 33 and 36 inch Culvert Pipe in carload lots only quoted upon application."

CONCRETE SEWER PIPE.

How It Has Won Public Preference Over Clay Pipe in Milwaukee.—An Official Statement.

Mr. J. P. Sherer, of the Board of Public Works, Milwaukee, in an address before the Northwestern Cement Products Association, held in Chicago, in December, 1907, made the following remarks, bearing on the subject of concrete pipe:

"Having been connected for many years with the concrete

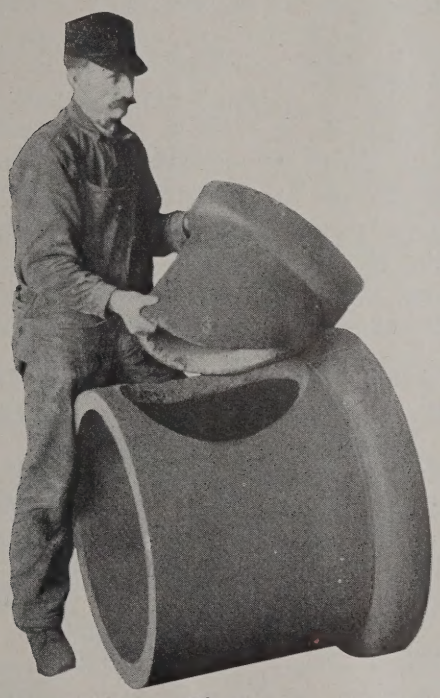


Fig. 3.

industry, I have passed through the various phases of evolution that have taken place from time to time in concrete construction. * * * I was requested to speak here particularly on the construction of cement for sewer pipe, and having been connected in Milwaukee with a firm making sewer pipe, it was thought I might tell you something of interest on that subject. * * *

According to my recollection, our concern has been making blocks about twelve years, and has been engaged from 12 to 18 years in making trimming for stone and concrete sewer pipe. I have watched the business grow, the product aggregating in value from five to seven thousand the first year, to approximately one hundred thousand per year at the present time. * * * The cement pipe factory we used at times for making blocks also. * * *

Few people realize the extent to which concrete sewer pipe is used. Out of 300 miles of sewerage in Milwaukee, as near as I can learn, over 200 miles is made of concrete, which speaks well for a product of that kind. In all places where we had to replace the sewers that were put in in the early history of Milwaukee, we found the concrete pipe to be intact. For instance, only recently, we were required to take up 12-inch pipe and replace it with 20-inch, and for the entire length that pipe was found to be in elegant condition—very much harder than when first placed there. There was no defect or flaw from one end to the other, and there was fourteen or fifteen hundred feet on that line of pipe.

Our engineers (of the Board of Public Works) recommend concrete pipe to be the best for the conveying of sewerage that is to be had. We have used various kinds of aggregates for making this pipe; at times crushed stone and sand; and sometimes gravel and sand. We generally use the ordinary bank gravel, which is the cheapest we can get, and find it sufficient for making the pipe. The pipe is rammed or tamped. Three years ago we put in an air tamper. Before that time we used hand tamping entirely.

Ts and Ys and connections are put on the pipe after it is cured. We make a hole for the connection, place the junction on the inside and cement it up. In joining the pipe, we cleanse the broken edges, and get good results. It is a good idea after thoroughly tamping both ends, where you wish to make the union, to make a solution of neat cement, about the consistency of cream, and apply it to both sides. Simply wipe the joints with this solution, as the plumber wipes the joints of lead pipe with molten lead. It never cracks at that point and we have had no trouble whatever. We put junctions in our pipe sometimes 12 to 18 inches in size."

In response to the question, "How do you connect with a sewer not already connected?" Mr. Sherer made the following reply:

"We do that by making holes in the pipe in the manner I have before described. Of course we do not like to have that done in a general way. It is done under the supervision of the Board. If a plumber asks to make a connection for a building, we have an inspector there with the plumber, and he breaks in a hole and makes the connection as I have described. If it is at a place where there is already a connection and it is to be made larger, they simply make a larger hole and cement it up. We put in a large number of house drains of this cement pipe. It is one of the laws of our city that the property is assessed for these connections and we put them in for every lot, but sometimes they are not large enough and we take them out again. These connections can be very readily made by breaking through, as I told you. The work needs to be carefully done, so that the pipe is not destroyed. At times when we have to make a very large connection, we take out one section and insert another one." * * *

Mr. Sherer said further, "The greatest enemy of cement pipe is the vitreous pipe manufacturer. Years ago, in Milwaukee, we were hardly allowed to live. We had a big fight on our hands and we won out, and today if there is any preference shown, it is for cement pipe. It is sold there on the same list price as vitrified."

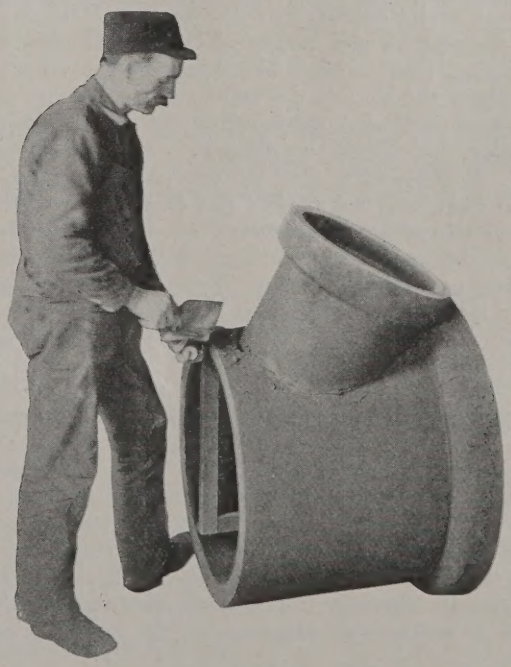


Fig. 4.

SOME TESTS OF STRENGTH OF CEMENT AND CLAY DRAIN TILE.

Extracts from a Paper Read at Des Moines, February, 1908, Before the Iowa Association of Cement Users.
By PROF. A. MARSTON, Dean of the Engineering Department, Iowa State College, Ames, Iowa.

There is no one drainage question concerning which the Engineering Experiment Station at Ames is receiving so many inquiries at the present time as the relative merits of cement and clay drain tile. All over the state people are desirous of knowing whether the cement tile are strong enough to withstand the handling they are necessarily subjected to in hauling and laying and the pressures which they must sustain in the ditch after laying. The question of resistance to disintegration from effects of freezing and thawing and other destructive agencies is another subject of frequent inquiry.

In the past we have been compelled to admit our inability to give conclusive answers to the inquiries we receive. We have still in satisfactory use on the college campus a sewer made of cement pipe at least 25 years ago, and we firmly believe that it is entirely practicable to manufacture cement drain and sewer pipe of a most satisfactory quality. We also believe that it is dangerous to entrust the manufacture of such pipes to inexperienced or careless or unreliable persons.

STANDARD METHOD OF TESTING TILE AND SEWER PIPE.

At present no standard method of testing tile and sewer pipe has been adopted by laboratories. Hence, in the beginning of this investigation it became necessary to devise a method of testing, which, while reproducing as nearly as practicable the actual conditions under which the pipe are to be used, would be capable of exact duplication in different laboratories and by different investigators.

As tile and sewer pipe are actually used in the ditch, the bottom of it does not exactly conform to the lower half of the pipe, and there is a tendency for the earth to settle away from the under side at the outer portions, leaving the pipe unsupported there. At the mid diameter, in a narrow ditch, or with careless tamping, there is also a lack of support from the earth filling. The load comes upon the upper half of the pipe from the weight of superincumbent filling, but this will receive some support by friction against the sides of the ditch.

After careful consideration of these conditions, it was decided that the best standard method easily capable of duplication in any laboratory and which should approximately represent actual service conditions, would be to bed the lower portion of the pipe for one quarter of the entire circumference in sand, retained firmly in place by a heavy frame work of timber, and to apply the load to the upper portion through a similar bed of sand, extending one-fourth of the entire circumference of the pipe, and all held in place by a heavy frame work of timber. A thickness of cloth or canvas was used to prevent the sand from escaping between the edge of the upper frame work and the pipe. The pressure was applied to the upper surface of the bed of sand, and not to the upper frame work. There was no danger, therefore, of concentrated pressure coming upon the pipe through contact with the upper frame.

The tests were made on a 100,000-pound Transverse Riehle Testing Machine.

GENERAL PLAN OF INVESTIGATION.

A number of samples of drain tile were secured from manufacturers as representative of their product, in the case of both cement and clay. The cement tile so obtained ranged from 4 inches to 12 inches. The clay tile on the other hand ranged from 4 to 24 inches internal diameter. Besides testing the above samples obtained from manufacturers, it was thought desirable to manufacture some cement tile, so that accurate information would be available as to the proportions of sand and cement and all other features of the manufacture.

A 1-3 mixture was adopted for these tile. The material was of good, coarse sand containing some small pebbles. The tiles were made in Miracle molds by the ordinary dry process, the details being directed by an experienced tile maker. The work was done in the month of March, in the basement of one of the college buildings which was under construction. The tile were protected against freezing, but were not kept at a very high temperature. They were kept thoroughly sprinkled with water until set hard.

The internal diameters of tile manufactured were 12, 18 and 20 inches respectively.

After making a complete set of tile of the regular thicknesses provided for by the Miracle molds, these molds were remodeled in our shops and a second set of tile manufactured, having about one-half inch greater thickness of shell than the first.

Enough tile were made to enable two of each thickness of shell to be broken at the respective ages of two months, eleven months, two years, and three years. Only the two months and eleven months tests have been made as yet.

INCREASE IN STRENGTH OF CEMENT TILE WITH AGE.

In attempting to draw conclusions from the above results, it should be remembered that tests of clay and cement materials show large variation, due to unavoidable differences in manufacture, and hence too much reliance should not be placed upon the results of so small a number of tests as are given in the above tables.

Perhaps the most striking feature in connection with these tests is the great increase of strength from 2 months to 11 months in the age of the cement tile manufactured at the college. In this connection it should be remembered that the weather was cool during the first two months these were cured.

One good quality of cement drain tile is that they continue to increase in strength after first manufactured. Unfortunately, however, the heaviest pressures come upon them soon after they are laid.

It would not seem wise, therefore, to use cement tile very soon after manufacture.

The only comparison between cement and clay drain tile which we feel warranted in making at this time is in the case of the cement tile manufactured by ourselves. A comparison of the tests of these tile with those of corresponding diameter of clay tile is hereby given in Table VII. (See page 3.)

A study of this table will convince anyone that it is feasible to make cement drain tile which will attain all necessary strength and which will compare very favorably in this respect with clay tile.

Table VII—Comparative Average Strength of Cement and Clay Drain Tile.

Internal Diam. Ins.	1 : 2 Cement Tile						Clay Tile		
	Age 2 Months			Age 11 Months					
	No.	Thick. In.	Str. per Lin. In.	No.	Thick. In.	Str. per Lin. In.	No.	Thick. In.	Str. per Lin. In.
24							1	2-3/8	318
20	2	2-1/4	81						
20	2	1-3/4	69	2	1-5/8	159			
18	2	2-1/4	128	2	2	307			
18	2	1-3/4	94	1	1-1/2	222	2	1-1/4	200
15							1	1	103
12	2	2	137	2	2-1/8	417	3	1-1/8	158
12	2	1-1/2	117	2	1-1/2	200	2	7/8	141

NOTE.—For lack of space one table alone is given. This article was published in full in Vol. I, No. 2 of "Miracle Concrete."

Reinforcement for Concrete Sewer Pipe

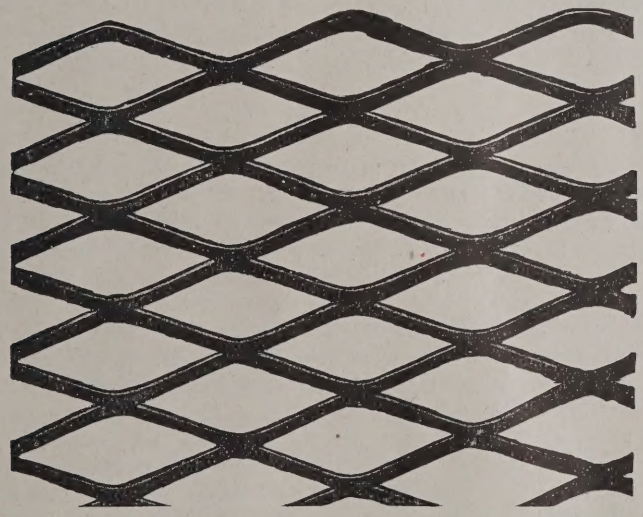
And Groove and Tongue Tile.

A large amount of Miracle cement sewer pipe has been used in constructing irrigation systems and for other purposes where water is carried under heavy internal pressure. The internal pressure per square inch is approximately about a half pound to every foot of head and often times we have been called on for information as to how a cement pipe should be reinforced to carry water having from 50 to 200 foot of head. We have therefore made a table which is shown on this page, giving the size of sheet of expanded metal necessary for the different sizes of pipe. This expanded metal is furnished in the 3-inch mesh of No. 16-gauge material, which is strong enough for any internal pressure up to 100 pounds per square inch.

The reinforcement is placed in the mold near the outside shell when the tile are to be made for internal pressure, thereupon the concrete is tamped into the mold. After the tamping is done, the forms can be removed, and, after the pipe has been cured by regular process of curing pipe, it will be found that the finished product is almost indestructible.

The sleeve joint, which is fully explained on page 99 of this catalog, can be used very nicely with reinforced concrete tile. The sleeve can be reinforced with wire hoops, and, when used with reinforced straight tile, a joint of double strength is insured.

For the convenience of customers, we give as follows a table showing the size of sheets necessary for the different diameters of pipe, and the price of each sheet, f. o. b. factory.



Diameter of Pipe	Length	Size Sheet Required	Sq. Ft.	Cost for Reinforcement Per Lineal Ft. of Tile	Cost for Reinforcement per 2 Ft. Pipe
12 inches	2 feet	2 ft. x 3 ft.	6	12 cts.	24 cts.
15 "	2 "	2 " x 3 " 9 in	7½	15 "	30 "
16 "	2 "	2 " x 4 "	8	16 "	32 "
18 "	2 "	2 " x 4 " 6 in	9	18 "	36 "
20 "	2 "	2 " x 5 "	10	20 "	40 "
24 "	2 "	2 " x 6 "	12	24 "	48 "
26 "	2 "	2 " x 6 " 6 in	13	26 "	52 "
30 "	2 "	2 " x 7 " 6 "	15	30 "	60 "
36 "	2 "	2 " x 9 "	18	36 "	72 "
42 "	2 "	2 " x 10 " 6 in	21	42 "	84 "
48 "	2 "	2 " x 12 "	24	48 "	96 "

Prices subject to change without notice.

When carrying water under heavy pressure it is sometimes advisable to waterproof the pipe. We recommend R. O. U. See p. 126.

It is unnecessary to reinforce cement pipe when only subjected to 25 lbs. internal pressure per square inch or less.

Florence, Colo., April 17, 1908.

Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentleman:--We wired you today as follows: "Quote us by wire on sixteen inch mold with sixty bottom and two top rings. Send catalog." to which we received your prompt reply quoting us price of $79.00, and we would ask that you please send us by freight immediately the following:

1 16-inch Pipe Mould, complete
60 Bottom Rings for same
2 Top Rings for same

Replying to your favor of the 13th, asking us to give you some testimonial regarding your product, beg to state that we cannot too highly recommend your goods. We are now turning out some 1200 to 1500 feet of pipe daily of 8, 10, 12 and 24 inch and same is giving us the utmost satisfaction. When we have completed the laying of some 150,000 feet of pipe, we feel confident that we will have the most complete irrigation system in America. If at any time we can be of service to you please do not hesitate to call on us.

Very truly yours,

The Beaver Land & Irrigation Co.

By B. H. Hopkins,

Assistant Secretary.

INSTRUCTIONS AND SPECIFICATIONS TO THE MANUFACTURER OF MIRACLE CEMENT TILE AND SEWER PIPE.

PLANT AND EQUIPMENT.

In the manufacture of cement sewer pipe or drain tile on Miracle molds, it is necessary, as in the manufacture of any other cement product, to have sufficient shed room for two or three days' run, preferably three days. Pipe should be made on a cement floor or on wooden pallets. In case of the latter the number of pallets required will, of course, be governed by the number and size of the tile made, the larger sizes requiring a fewer number of large size pallets. It is necessary to have enough pallets, however, for at least two days' run, as the product should remain on the pallets for 48 hours, when it can be safely removed and the pallets used again.

An abundance of water is one of the most important features in the manufacture of any cement product. If city water is not available, a tank should be procured to supply water under pressure for the purpose of sprinkling and curing. With this method a large number of pipe can be taken care of by having a waterpipe to connect with the tank and using a hose to distribute it.

The building or shed for making the cement pipe should have all sides closed in. Windows on the sunny side should be covered and doors kept closed as much as possible, as draughts of air or direct contact with the sun's rays are apt to dry out the material too rapidly.

If a cement floor is used, it should be very smooth. A wooden floor is not practical on account of the fact that it is usually not rigid enough to withstand the jar occasioned by tamping, and this jar will damage the newly made tile. Where no floor is used, the ground should be leveled off and the tile piled directly on the ground.

The size of the storage yard will, of course, be governed by the amount of stock carried. Cement tile can be piled up the same as any other tile or pipe and sufficient yard room should be had to pile the different sizes separately.

METHODS AND MIXTURE.

For making a first-class article of sewer pipe, a 1 to 3 mixture is recommended. This, of course, applies to the semi-wet process, which is most generally used.

For making drain pipe in sizes 12 inches or under, a leaner mixture of 1 to 4 or 1 to 4½ may be used, but for drain pipe of larger sizes than 12 inches in diameter, we would always recommend the use of as rich a mixture as 1 to 3. A sufficient profit can be made in competition with clay pipe on this basis, and the quality of the product kept to the highest standard.

CEMENT.

The same specifications hold good in making cement pipe and tile, as in any other cement product, viz., any standard brand of pure cement, which will pass the specifications assigned by the American Society for testing material.

SAND AND GRAVEL.

Sand and gravel that pass through a ¾ inch mesh screen, or ½ inch mesh shaking screen should be used. If it is correctly mixed, all sand will make a first-class product, but a better pipe will be made by a reasonable proportion of small pebbles which will pass a screen of the size indicated.

On account of the great variety of sand in the different sections of the country, it is impossible to give a set specification which would be of general value. Necessity often compels the use of materials at hand and where sand is very fine, we would recommend the use of a little more cement, say 1 to 2½ mixture, to avoid any possible chance of weakness in the product, occasioned by very fine sand.

Sand should be reasonably clean and free from loam, although experiments have shown that a small amount of finely distributed clay, up to 5 per cent of the whole, is not of any detriment to sand for use in making cement pipe or tile. In fact the presence of this smaller percentage of clay, providing it does not appear in balls or lumps, makes the material work better.

Quoting from Baker's "Masonry and Construction": "Mortar containing a small percentage of clay is much more plastic, dense and waterproof and such mortar is not affected by the presence of water."

At a session of the National Association of Cement Users extended discussions have brought out the information that many experiments have been made with sand containing a small percentage of clay, and that up to 5 per cent it is not detrimental and has no bad effect on the finished product. However, in using sand containing foreign matter, you are treading on dangerous ground and should have tests made to ascertain what percentage of this foreign matter is present, so as not to use material that would weaken your product.

MIXING.

Having selected your material, the subject of mixing should be given very careful attention. The sand and gravel used should be perfectly dry when the cement is mixed with it, as, when it is moist, it has a tendency to ball and the cement does not get evenly mixed with the sand and aggregate, thereby losing the strength of a large percentage of the cement. After the material has been thoroughly mixed dry so that it does not show streaks and is of even color throughout, sufficient water should be added so that the material will retain its shape when compressed in the hand, and when a ball so compressed is broken, it will break clean and the edges will not crumble.

The material should be used just as wet as possible without sticking to the molds, and great care should be taken that this instruction is followed, because cement must have sufficient water to cause it to thoroughly crystallize.

HANDLING THE MOLDS.

Bell End Pipe.

In making Bell End Sewer Pipe the inside casting for the bell or pallet should be kept free from rust by dipping in crude oil or a solution of paraffine, or R. O. U. mold wash to prevent it from sticking to the concrete, and cause it to remove easily from the finished product after it has set. Place the inside iron ring on a wooden pallet or on the floor, so that it sets firm and level with the outside of the Bell mold, clamp around it with "U" shaped clamps. The three projecting lugs or points serve to space the outside ring evenly, which is of proper shape of the outside of the bell of standard shape. This ring consists of two pieces, fastened together by a "U" shape fastening device. Then set the sheet iron cone in place on the inner ring, shovel and tamp in as much material as possible. The tamping into the bell should be done thoroughly, using a regular tamper, placed at an angle of about 45 degrees, so as to tamp back in under the shoulder of the bell. Care should be taken that the material is very firmly packed under this overhanging portion of the outside of the ring. Scoop out any surplus

material, remove the cone and place the inside casing in place, expanding it to its largest size. After the inside casing is put in place, a few handfuls of material should be placed in the mold and tamped once around, so as to fill up the mold nearly level with the top of the outside of the bell, then place the outside casing in position, contracting it to its smallest size by the outside lever for that purpose. Lugs on the inside bell casting hold the inside core in position and lugs on the outside bell casting hold the outside casing in position. Then place the cone on the inside casing or core, and commence shoveling in the material and tamp carefully, thoroughly and evenly. Be very careful in tamping the bottom of the pipe, so as to preserve an even thickness of the pipe all the way around. The tamping should begin immediately after the first shovelful of material is placed in the mold.

One man is sufficient to tamp up to sizes 20 inches to 24 inches in diameter, after that two men work together to better advantage. Under no condition should the mold be filled half full before being tamped. The tamping should be done carefully, striking even and regular blows, and care should be taken that the same amount of tamping is given entirely around the circle. A little practice will enable the operator to make absolutely perfect tile.

After the mold has been tamped full, remove the cone and finish the tile on the top with a trowel cut to fit the circular form of the mold. The inside core is then contracted and lifted out. One man can handle the cores for all sizes of pipe up to 15 inches in diameter. In sizes larger than this use the lifting bar with hooks, and two men should be used to remove the cores. Then loosen the "U" shaped fastenings which hold the bell in position, before loosening the outside casing, then expand the outside casing to its fullest size and remove it carefully. Then remove the outside of the bell attachment by taking off the "U" shaped fastenings and sliding the 2 parts of the bell attachment away from the finished tile. The inside ring for the bell must remain in place for about 2 days until the pipe is of sufficient strength to lay out on its side when the inner ring is removed, by a slight tapping from the inside. The best way to remove these rings is to tamp the top edge, which projects inside of the pipe, tipping the pipe at a slight angle, and tamp the ring lightly, which will loosen it quickly.

In the operation of removing the casting of the outside bell, great care should be taken that the green pipe is not jarred or injured, as it is very fragile at this time.

BEVEL AND TONGUE PIPE.

In making Bevel and Tongue pipe the bottom ring is placed in position on the floor, or on a wooden pallet, the same as the inside casting for the Bell End pipe. The inside casing is placed inside of this and expanded to its fullest size and the outside casing is placed outside of it and contracted to its smallest size. Filling and tamping should proceed the same as in making Bell End pipe or Straight pipe, and when the mold is tamped full, the finishing ring with two handles is used to finish the pipe at the top, making the opposite of the groove at the bottom. The inside and outside casings are then removed, the same as before.

STRAIGHT PIPE.

In making straight pipe for drainage purposes, the inside and outside casings are placed in position and the cone and hopper are used to direct the material into the mold. The tamping process should be even and careful, the same as in making other kinds of pipe. The centering of the inside core is accomplished by tamping and requires only a small amount of care, beginning in the bottom of the pipe, to make a finished product of even thickness on all sides.

CURING THE PRODUCT.

We now come to one of the most important features in the manufacture of concrete. It is the curing process, where there may be a great tendency to slight the work. We must follow out carefully the processes that have produced the best results, if we want a thoroughly first-class product. Time and water are the essential requirements. The tile should be sprinkled plentifully as soon as they are set sufficiently. In a hot dry climate this can be done in a few hours, while in a damp climate they can go for 24 hours before they need to be sprinkled. They should be sprinkled once or twice daily as long as the water is rapidly absorbed.

In the curing shed they should be kept free from air currents and sunshine for at least two or three days, when they can be taken out in the yard and covered over with canvas, burlap or hay that will hold moisture, where they can remain for two or three days, when they can be stacked up in a pile and left for 30 to 60 days more at which time they are ready for the market.

A warm, damp atmosphere hastens the curing of any cement product, and this leads us up to what is known as steam curing.

STEAM CURING.

Many inexpensive devices for curing cement products by steam are in use in different sections of the country, both for making sewer pipe, tile, block, brick and other products of this industry.

Dry steam should under no circumstances be used. Where steam curing process is to be employed, rooms should be provided which can be closed up reasonably tight and exhaust steam turned in from pipes running under the floor. No more than 5 pounds pressure should be used at any time on the pipe conducting this steam, and by means of this process the product can be cured much more quickly. Warmth accelerates the setting of the cement and the steam supplies sufficient moisture for a perfect crystallization.

Some successful steam curing plants have been erected without the use of a boiler of any kind, by simply using a few gasoline torches in curing the product, provided with thin pieces of sheet iron over the blaze with water dripping onto it. This water is turned into steam as fast as it drips and provides sufficient heat and moisture to cure the product in a first-class manner.

When the steam curing is used the product should be allowed to remain in the steam curing room or kiln from 18 to 24 hours, and the steam should not be turned on until the product is 12 hours old.

CAUSES OF TROUBLE.

If you have any trouble in operating your outfit at the start, it is probably due to one of the following causes: If your material is mixed too wet, the inside casing or core may remove all right, but the outside adheres to the material when expanded, causing the tile to collapse. A little oil on the mold and a little less water in your mixture will remove this difficulty. On the other hand if the material is too dry, it is not plastic enough to stick together and the material will fall down when the mold is removed. Thorough and complete tamping is very essential to produce the best results. That is, the material should be tamped evenly, as it is shoveled into the mold, leaving no soft spots in the tile. Begin tamping when the first shovelful is placed in the mold and continue until the mold is full. Do not fill up the mold partially, that is half way at a time, and then begin to tamp.

When making tile on a wooden floor, it should be perfectly solid so as not to jar the finished tile from the tamping of the one you are making. A little care in making your product and in following these instructions to the letter, will avoid any trouble in turning out a first-class tile and sewer pipe.

IMPORTANCE OF A FIRST-CLASS PRODUCT.

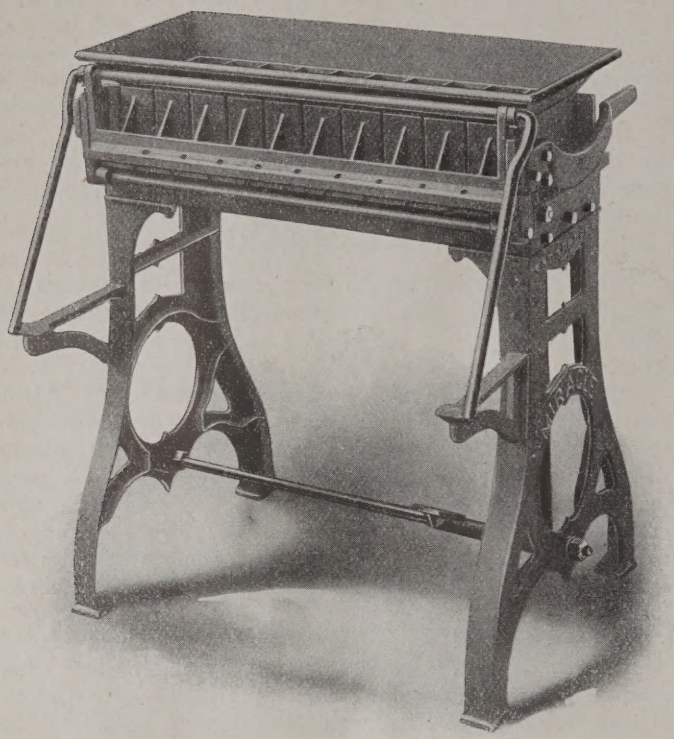
In going into this business make up your mind first that you are going to give your customers an honest product. Build up your business on this sort of a reputation. Don't forget that the clay pipe manufacturers are watching for an opportunity to pick flaws in your work, and will embrace these opportunities if you give them a chance. Cement pipe is superior in every way to the clay product, if you will make it so. Above all keep both the price and quality up.

THE CONCRETE BRICK INDUSTRY

LITTLE CAPITAL. BIG PROFITS.

The Miracle One-Man Machine, $100 F. O. B. Minneapolis.

EXHIBIT "Q"



THERE IS A BIG AND GROWING DEMAND FOR CEMENT BRICK.

Owing to a growing scarcity in many cases and the poor quality of clay brick, there is a great and increasing demand for Cement Brick. On account of its familiar size and shape, many people will unhesitatingly use Cement Brick who would not consider a hollow Cement Block of larger size on account of certain skepticism. Cement Brick, therefore, is bound to play an important part in future concrete construction.

If you are in the Concrete Business you should have a Miracle Brick Machine. It will increase your business more than any other feature you could add.

If you are a dealer in building material, you should add this profitable line to your business, thus getting full measure of profit on your Cement.

If you are a larger user of building material a Miracle Brick Machine is an indispensable necessity. There is only ONE profit and you get it all. You are the manufacturer and the middleman all combined.

A Few Words as to the Quality of Cement Brick.

To realize that this product is durable we have but to refer to concrete in other forms, used now by all great corporations in constructing their various buildings, railroads, bridges, and other permanent structures, used by the government in great works, both on land and under the water, and its use backed by all the eminent authorities and engineers. We can even go back further and refer to perfect concrete more than two thousand years old; thus we dismiss the subject of durability.

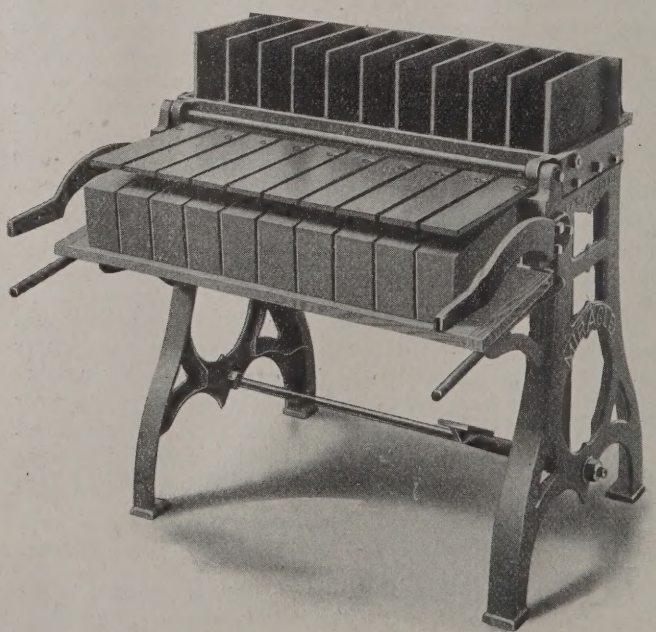
Can we say as much as to the durability of clay brick in any form? Building after building has been built of this new and practical product—cement—and we have yet to hear of unsatisfactory results. Cement brick are taking the place of pressed brick because they are better, and because they are cheaper.

A ONE-MAN MACHINE.

On account of the preceding facts there has been a popular demand for a cement brick machine. A machine was wanted which would make perfect brick, a machine that could be operated so economically by one man that the product could strongly compete with, or so far undersell common brick, even in localities where the manufacture of clay brick is a leading industry, and a machine that does not require a large outlay of capital. This led us to produce our one-man machine, and we are proud to realize that for economy, utility, simplicity of operation and construction, and perfection of product, it is unequalled by any other brick machine in the market.

The "Miracle" one-man machine is not the result of some half developed ideas, as are many of the machines offered for sale. It is not an experiment or make-shift; it is not one of the kind that is designed merely to sell, regardless of the future consequences. It is thoroughly tested and guaranteed to stand any test.

The "Miracle" was designed after months of experiment by a competent engineer who has had wide experience in



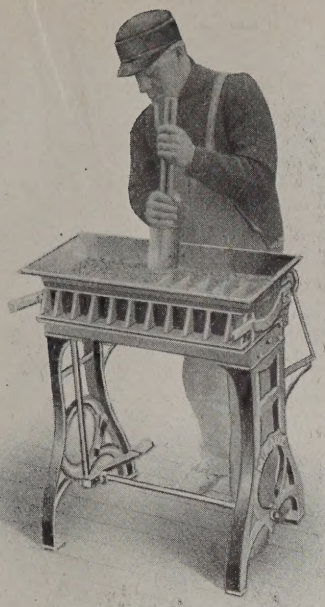


Illustration No. 4—Tamping.

MIRACLE ONE-MAN CEMENT BRICK MACHINE.

3000 Brick is an easy Day's Work for the Average Workman.

This allows plenty of time to take care of the product of the day before.

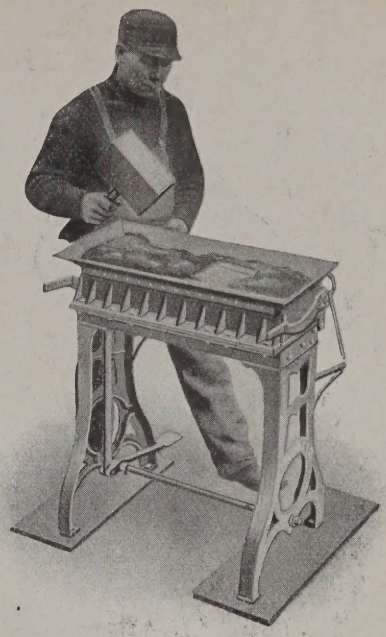


Illustration No. 6—Tamping with Mallet.

designing machines of this character as well as being familiar with the character of the product which this machine could turn out. In designing it, the faults of many of its predecessors were carefully noted and totally eliminated with the additional strong feature of the same capacity under only one man instead of two or three, as is the case with all other machines. The result is the Miracle Improved One-Man Brick Machine, a perfect machine, turning out a perfect product, a source of pride to its manufacturers, and a source of satisfaction and profit to every user.

LIBERAL COST ESTIMATE FOR A FIRST-CLASS PRODUCT.

The following is a fair basis upon which to figure the actual cost of producing three thousand brick or one day's output. 1/4 mixture—1 part cement and 4 parts sand. Standard size, 8 3/8 inches by 4 1/8 inches by 2 3/8 inches, each brick weighing 5.2 lbs.

6 bbls. cement at $1.60	$ 9.60
5 yds. sand at $0.50	2.50
1 laborer on machine	2.25
1 laborer mixing	1.75
Total cost of 3,000 brick	$17.10

This makes an average cost of about $5.70 per M. for an absolutely first-class brick. If these figures do not agree with cost of material in your town, revise them accordingly, and you will see the cost of cement brick for you is very low. If you make your own brick, remember that you make the wages as above indicated plus the profit.

FIRST OPERATION.—TAMPING.

Tamping is one of the most important operations, in that it must be thorough; although further tamping after the materials have become compact is a waste of energy.

First put the hopper in place, fill the mold level full, and tamp with the soft babbit metal tamper (see illustration No. 4),

Illustration No. 5.
Applying an extra fine surface before tamping. Necessary only when making face brick.

This means from $10.00 to $20.00 a day Profit for you, and the other fellow does the work.

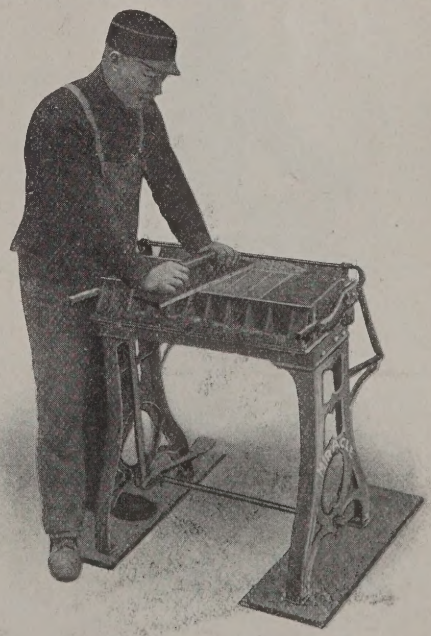


Illustration No. 7—Floating Off.

THE GREATEST ONE-MAN MACHINE.

Illustration No. 8—Releasing.
The foot lever is first used for releasing

A Quality Machine Built to Last a Lifetime.

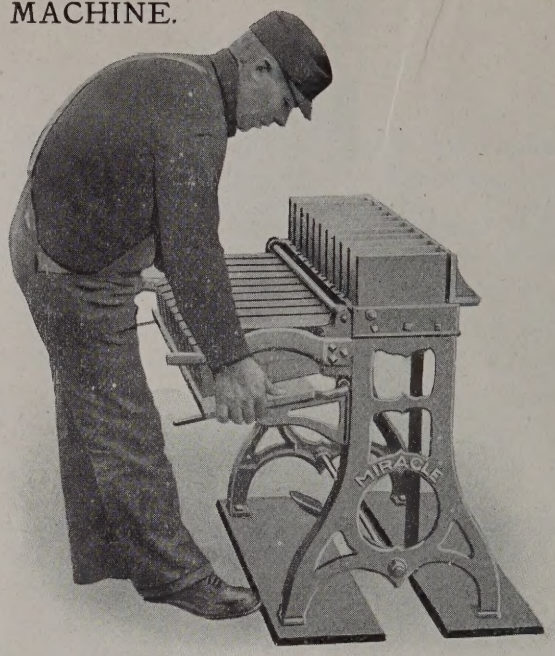


Illustration No. 10—The Finished Product.

then throw in a little excess material and pound down with the wooden mallet as shown (illustration No. 6). When thoroughly tamped, remove the hopper, shoving most of surplus material off with the bottom edge as it is slid back over mold box.

SECOND OPERATION.—FLOATING OFF.

This simple operation is done with a wooden float with handle similar to a plasterer's trowel (illustration No. 7). In floating always raise the front edge of float slightly, so that its inclined position will force the material down into the various partitions of the mold. If the float is held perfectly flat, so that its front edge scrapes off all the surplus with the first stroke, it is apt to dig in slightly and not leave sufficient material for finishing properly.

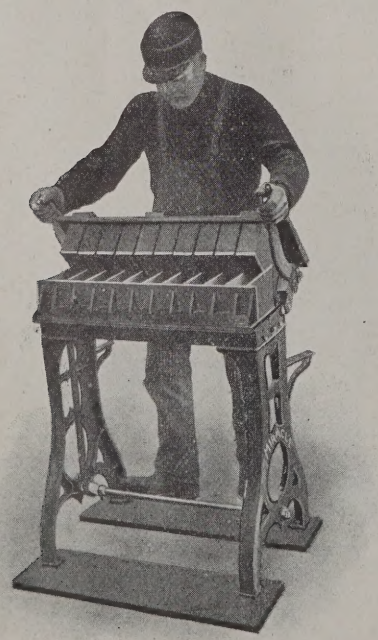


Illustration No. 9—Turning.
Showing three surfaces holding the brick in position, viz: the face plates, the palette and the front plate.

We also Make this Machine for Brick $8\frac{1}{8} \times 2\frac{1}{8} \times 3\frac{7}{8}$ in Size.

Such Brick Cost 75c per M Less than Estimate on Page 109.

THIRD OPERATION.—RELEASING.

Lay a smooth wooden palette on top of mold, turn the pivoted rod with projecting handles over top of palette, grip the handles extending out from the plate, and the handles on pivoted rod, thus clamping the palette firmly (see illustration No. 8), between them press down on foot lever, and at the same time turn the movable part of mold containing brick over toward you.

The function of the foot lever is to work a series of cams (see B, illustration No. 12), which push up against the bottom of the plates and assist in starting the turning operation.

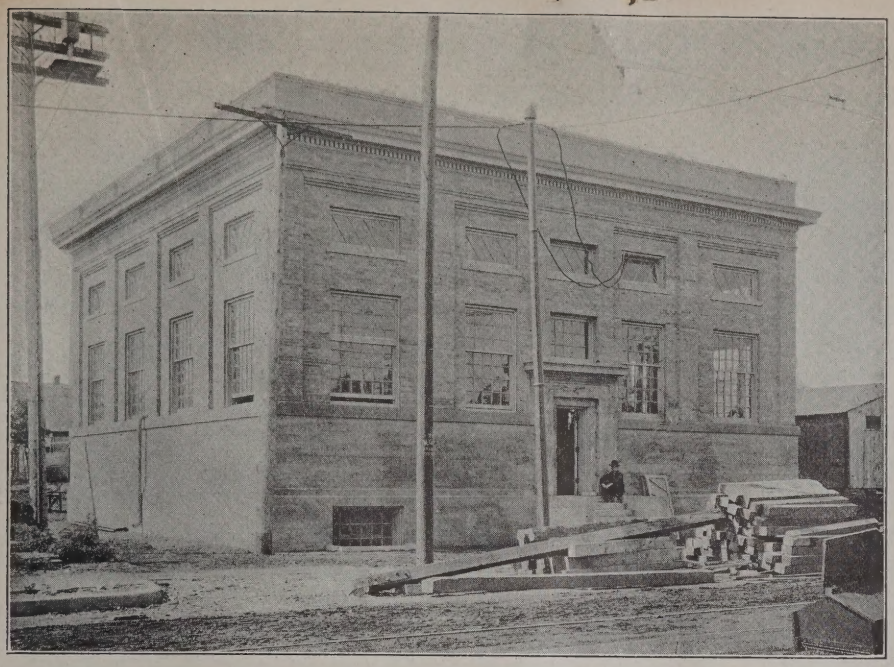
It will be observed that by the use of this lever the turning is simply one operation, although here illustrated by two views. It does away with the necessity of jerking or pulling a plug or of other methods used in giving the turning operation the initial start. It makes possible an even, steady motion in half the time, and with less effort from the operator.

It will be noticed that the front plate to which the face or bottom plates are rigidly fastened is hinged to the frame of machine, so that it turns over toward the operator (see illustrations Nos. 9 and 10). When it has described a half circle, the mold proper is brought to a stop, but the pivoted rod and palette containing brick swings down, until it rests on the brackets (see illustration No. 11), thus swinging the brick out and away from the front plate, and down to clear the face plates. The palette with brick may now be removed and the movable part of machine turned back into place ready to begin another operation.

THE FINISHED PRODUCT.—CURING.

Having the brick properly made, we now come to the simple, but very important part of the process—curing.

Brick should be sprinkled lightly as soon as they will stand the water without washing, in from four to twenty-four hours, according to weather, and should be kept constantly damp for eight to ten days. Under no circumstances should this product be allowed to dry during the first three or four days. By following these instructions, a thoroughly good, high class brick is assured.



Twin-City Rapid Transit Co.

We show here an illustration of one of the sub-power stations of the Twin City Rapid Transit Company. These power stations are distributed along their lines for distributing power to suburban lines.

Four Miracle One-Man Brick Machines are used in the construction of this building, the entire building being constructed of concrete. The building presents a mighty handsome effect and the Twin City Rapid Transit Company are constructing all of their buildings either out of concrete brick or block.

LaGrange, Ga., April 24, 1907.

Miracle Pressed Stone Co., Minneapolis, Minn.

GENTLEMEN:—Your inquiry of the 17th received. I beg to state that I am using the Miracle Brick Machine, and from test I find that it is the best machine on the market. At the time I bought the outfit it cost me $150.00. As to cost of brick, a great deal depends on the locality. I am making a very nice profit out of my brick, at $15 per thousand.

Yours truly,

E. D. ROBERTS.

Roswell, New Mexico, June 29, 1907.

Miracle Pressed Stone Co., Minneapolis, Minn.

GENTLEMEN:—We want to express the utmost satisfaction we have experienced with your $150.00 Brick Machine. Your claims as to capacity are none too large, and it is a business proposition that is certainly a good one.

When we need any more brick machines, we are going to buy a Miracle.

Very truly yours,

HONDO STONE MFG. CO.

A Montana Ranch House Built of Miracle Brick.

Bozeman, Montana, July 17, 1907.

Miracle Pressed Stone Co., Minneapolis, Minn.

GENTLEMEN:—I have just completed a business block here that called for pressed brick. I used your Brick Machine and used Cement Brick instead of Pressed Brick with profit to myself and much satisfaction to the owner. I have two kinds of brick machines, but for the general contractor think yours the best.

Very truly yours,

F. W. VREELAND.

Tucson, Arizona, Feb. 17, 1908.

Miracle Pressed Stone Co., Minneapolis, Minn.

GENTLEMEN:—Your Cube Mixer, mounted on trucks with engine, brick machine and sewer pipe molds, has arrived, and gives perfect satisfaction. Have had experience with several concrete mixers, but the "Cube Mixer" surpasses them all.

Your Brick Machine does more than you claim for it. Two men at the machine turned out 1,000 perfect brick in 2 hours and 20 minutes. Made 15 feet of 8-inch sewer pipe in 1 hour and 30 minutes. Have a contract for several hundred feet. Please ship us your Double Air Space Block Machine at once.

Very respectfully,

LUNSFORD & WAKEFIELD,
Tucson, Arizona.

THE MIRACLE ONE-MAN CEMENT BRICK MACHINE.

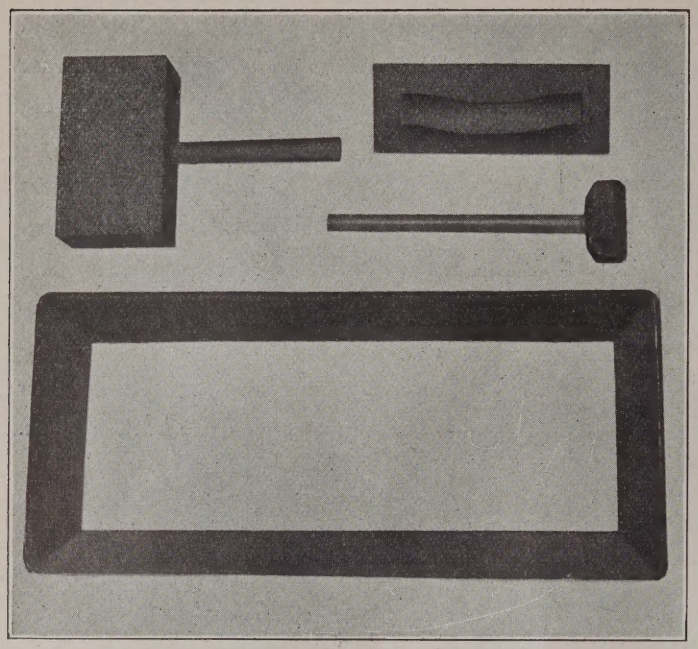


Illustration No. 11.
Showing Hopper, Babbitt Metal Tamper, Hardwood Mallet and Float, which are given with each Brick Machine.

THE ADVANTAGES ENUMERATED.

There is always a ready market for Brick.

Cement Brick are much better and cost no more than common clay brick.

Cement Brick can be made as good as the best pressed brick and for much less money.

The Miracle Brick Machine is a One-Man Machine.

It is easily and quickly operated.

With the assistance of a foot lever the releasing is made one simple, quick operation.

It is built on a strong serviceable standard.

It is built for hard usage and lots of it.

The faces are of extra heavy highly polished tool steel.

All faces are separately detachable.

All parts are absolutely rigid.

It calls for a small investment.

It yields big profits.

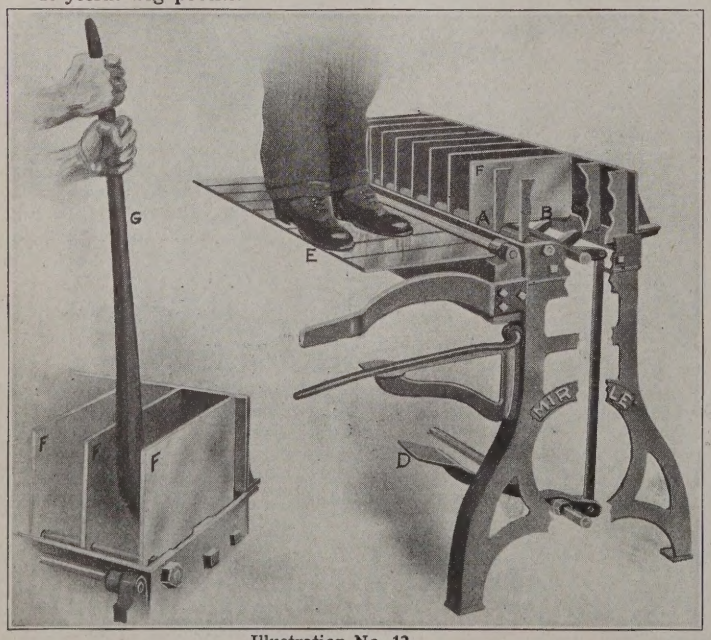


Illustration No. 12.
All parts absolutely rigid. The division plates (F) are square and true and cannot be bent or broken. The face plates (E) are of such good, sound metal, and are so well attached that a man's weight, or even the weight of two or three men, will not so much as bend them.

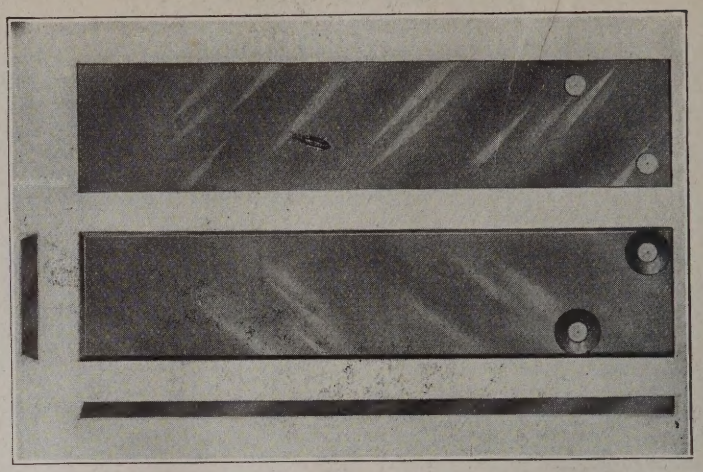


Illustration No 13.
The highly polished tool steel Plates form one of its many strong features.

CONSTRUCTION.

Shipping Weight 335 lbs.

The Miracle One-Man Brick Machine is built on a neat and substantial design. The molding parts are supported on a heavy cast iron stand of graceful design and pleasing proportions.

MOST DURABLY MADE.

In selecting a Brick Machine one wants the very best. He wants one that will stand hard usage and lots of it. He wants one that will not be constantly calling for expensive repairs. The Miracle Machine answers these requirements. It is strong in every part. From the heavy iron standard to the delicate mechanism of its molding parts, it is a most durable machine. It is made for a capacity of 3,000 to 4,000 brick every day for many years to come and must be of the very best quality or it would not stand the wear. The man who buys a brick machine expects to use it for all there is in it, and he therefore cannot afford to buy anything but the very strongest and best made machine. Better to pay a little more, if necessary, at the start, and buy a good machine that will last for years without repairs than to save a few dollars at the start and be squandering money for repairs for a year or two and then be obliged to buy another machine.

THE FACE PLATES.

The face plates (Letter "E" illustration No. 12) constitute perhaps the most important part of the whole machine. Notice in Figure 13 the highly polished surface of each face plate on a Miracle Machine. The faces are all finished by hand after six or eight machine operations. Each face must have the very highest polish possible in order that the brick will release readily and surely, making a perfectly smooth surface brick. Each face plate is 3/8 inch thick and is made of the very best tool steel. This is a thicker and stronger face plate than is used on any other machine on the market. Observe in Illustration 12 that a man can stand out on the very edge of these face plates and not have the slightest effect. If they were not of such good quality steel and were not so strongly attached they would soon give way under severe usage and either break, bend or get twisted out of position. To produce perfect brick they must always be true. In illustration No. 13 you will notice the bevel edge of each face plate which permits all surplus material to drop out and not cling to the edge of the plate to be a nuisance to the operator. Each face plate is separately detachable, which is not the case with other machines of this nature. In case

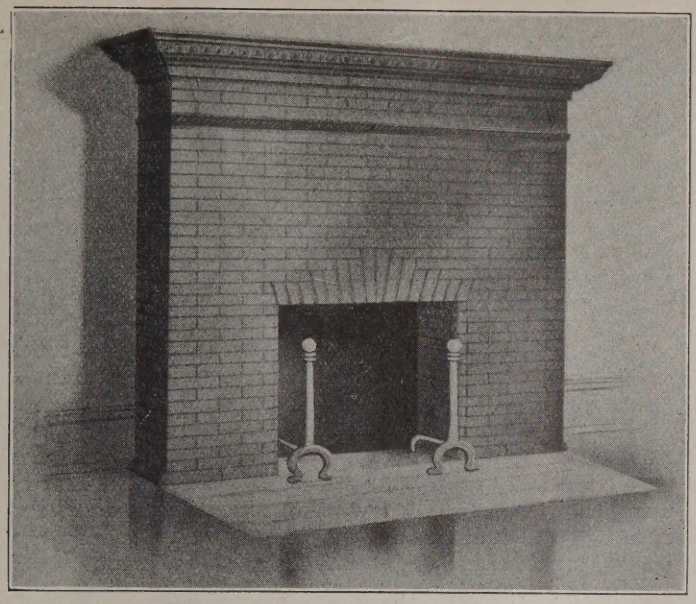


Illustration No. 14—A Cement Brick Fire Place.
One of the Many Possibilities With Miracle Cement Brick.

of breakage or damage to a face plate (which is hardly probable with a Miracle Machine, but which is more than likely to occur with machines of inferior workmanship), a new face plate can be substituted at a very slight cost. In other machines a whole new section of the machine must be purchased at big expense. This adjustable feature of each face plate permits the use of special fancy designs instead of one or more of the plain faces.

THE DIVISION PLATES.

The Division Plates (Letter "F" Illus. No. 12) are made of the same highly polished tool steel of which the face plates are made. They are absolutely rigid. A man with a crowbar would have a hard time bending one the least bit out of position. They are perfectly square and true. Each face plate slides into place without the slightest friction or annoyance to the operator, yet it is a close fit. The brick are true to the square and have sharp, hard edges.

EXTRA STRONG BEARINGS.

In Illustration No. 12 again, notice letters "A," "B" and "C." "A" is the shoulder on which rests one end of the face plates. "B" shows the cams operated by the foot lever "D," which support the center of the face plate and assist in releasing. "C" is an additional head on which rests the other end of each face plate. Thus we find that the face plates which receive nearly all the strain of heavy tamping are well supported. Better supported than on any other machine.

FACING.

The common cement brick, while smoother and more uniform than the best common clay brick, being all of exact size and true to the square, can be made so in apppearance as to equal the very finest pressed brick. This effect is obtained by facing. The usual mixture of coarser ingredients is used for the back, and a mixture of one part cement and one part fine sand is used as a facing. This facing, about one-eighth inch thick, is sifted into the mold, so as to evently distribute it over the entire bottom (see Illus. No. 5). It is mixed fairly moist, so as not to stick to the face plates, and will soon take up sufficient water from the wetter backing used. This backing may be so wet that a little water may be tamped to the surface.

Houma, La., March 4, 1907.

Miracle Pressed Stone Co.,
Minneapolis, Minn.

The brick machines I ordered of you are all right. I have tried them all, and am well satisfied with them. They are doing what we expected of them. I'd advise any man that can, to go into the business.

Yours truly,
ERNEST CHAUVIN,
Houma, La.

SPECIAL FACES.

Almost any design of brick is possible on a Miracle Machine. The illustrations show many different designs. The additional fancy face plates or fillers necessary for producing these brick make up a very strong feature of this machine. The face plates and necessary fillers are priced at $1.00 each. The end plates at 50 cents each. Order by number.

No. 9 Face.

No. 9X End.

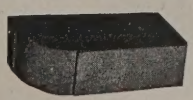
No. 2 Face.

No. 10 Face.

No. 10 End.

No. 8 Face.

No. 2X End.



No. 1.

No. 3.

No. 4.

No. 5.

No. 6.

No. 8X End.

MIRACLE SPECIAL BRICK MACHINE

$25.00 WITHIN THE REACH OF ALL. $25.00.

$25.00 F. O. B. MINNEAPOLIS. WEIGHT, 80 LBS.

THE DEMAND FOR CEMENT BRICK.

The demand for cement brick is increasing more and more every day. Everywhere that it has been introduced its superiority over clay and pressed brick has been quickly recognized. There has been no difficulty in any locality in obtaining a price from 25 per cent. to 50 per cent. higher than the prevailing price of common clay brick. Brick as a building material is a necessity, and those who can produce a good brick of any material can easily sell all they can make at a good, fair price. Since cement makes a most durable high class brick, why should there be any fear of selling them at a good honest profit? There shouldn't be, and the many who have attempted their manufacture have met with the most decided success.

You can meet with the same success for an investment of only $35.00. You take no chances whatever.

It's your opportunity. The quicker you accept it, the better. It will prove a basis for a well established and profitable business. Such being its possibilities you cannot afford to overlook it. A few years ago people were actually afraid to use CLAY brick, yet there have been millions upon millions of dollars made in their manufacture. People today are not afraid to use CEMENT brick. They are only waiting "to be shown." Many "have been shown" and are buying them. Its up to you if you want the profits and the business to "show" the people of your vicinity what cement brick are. This is your best opportunity to do it. A small investment, no risk, large profits and enormous possibilities.

CONSTRUCTION.

The Miracle "Special" Cement Brick Machine is built on a very simple and clever design. It is constructed in the most economical manner possible for the benefit of the investor, yet it is made surprisingly strong and is fully capable of meeting every requirement. It will last as long as any piece of good metal, viz.—a life time, for there is absolutely no complicated mechanism about it which will get out of repair or call for new parts.

The machine is based on a heavy iron casting 6 inches wide by 2 feet 10½ inches long by 2 inches deep, rigidly reinforced by two cross sections which also serve as supports to the face plates. This casting is made so that it is firmly bolted to a heavy iron stand. The mold proper is formed of two heavy castings. The section farthest from the operator is firmly bolted to the base and the nearest section firmly bolted to the face plate. It will be noticed that the face plate for all four brick is one heavy ⅜-inch piece of metal, and that this, together with the front part of the mold, is hinged to the base. The mold is locked by means of a square notch in the lower arm of the double bracket which catches on the lug projecting from the ends of the rear casting. This arm is not rigidly bolted by the two sets crews as appears to be the case. It has a slight play in order to serve as the latch to lock the mold when closed and to unlock by raising about ¼ inch before the turning operation actually takes place.

The size of the brick produced is 2¼x4x8 inches.

The machine complete is equipped with hopper, mallet, and sample pallet. It weighs 100 pounds ready for shipping.

OPERATION.

The machine as illustrated on the front page is ready for the mixture. Nothing could be more simple than the operation of this machine.

Fill the machine and hopper level full and tamp well down into the molds by using the mallet as illustrated in Fig. 1. If desired the mixture can be tamped first by using the handle of the shovel and the mallet afterward, although the first method is just as well if done thoroughly, and is much quicker.

The hopper is then removed by shoving away from the operator and scraping off with it the surplus material onto the table to be used again.

An ordinary wooden float is then used to smooth the back surface of the brick. The float is held with the front side slightly raised so that its front edge won't scrape off all of the surplus material with the first stroke. The surplus should be forced down into the mold as much as possible. This operation is a very simple one and very quickly done as it is not necessary to have a perfectly smooth surface on the back of the brick.

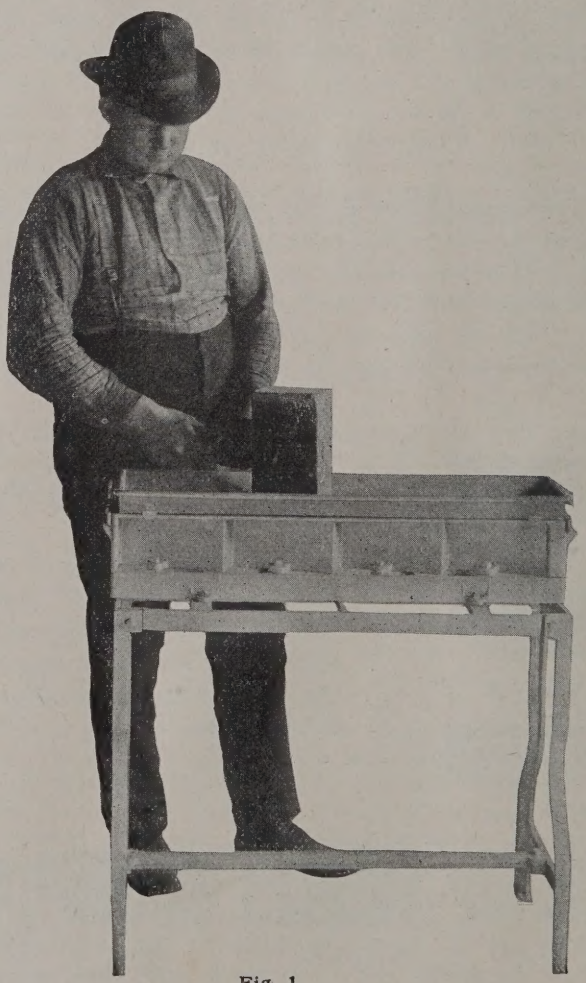


Fig. 1

MIRACLE SPECIAL BRICK MACHINE—Continued.

CEMENT BRICK ARE FIRE-PROOF.

$25.00

CEMENT BRICK GROW HARDER WITH AGE.

Slide a smooth wooden pallet (6x39x⅞) inches into place under the arms and flat on the surface of the mold. The arms or brackets, on each end of the machine, serve both to hold the pallet and as automatic locks.

By pulling upwards toward the operator to turn or open the mold these catches automatically unlock, thus rendering the turning, one simple, quick operation. See illustration No. 2. It will be noticed that in turning, each brick is held in place by four out of six sides and that each brick lies flat on its broad side, which avoids all possible breakage by the quick action of the operator. The turning is continued until this section of the machine rests against the edge of the table or bench leaving the brick in a natural upright position. The operator will then naturally lower the pallet about one-eighth inch (the distance or amount of play allowed between the arms and the pallet). This lets the brick down away from the face plate before they are withdrawn.

The Brick are now ready for the curing, which is a very important, yet very simple part of their manufacture. Brick should be sprinkled lightly as soon as they will stand the water without washing, in from four to twenty-four hours, according to the weather, and should be kept constantly damp for eight to ten days. Under no circumstances should this product be allowed to dry during the first three or four days.

By following these instructions a thoroughly good high class brick is assured. All the work of curing is taken into consideration in all our estimates. Two men can easily prepare their own material, make at least 1,000 brick per day and take good care of all the brick made in the preceding ten days. In fact, the capacity is only limited by human speed and endurance.

COLORED BRICK.

Colored brick are often required, and they are easily and economically produced. They may be colored throughout or the face only, and very good results obtained. They greatly increase the profits. See Miracle Colors. See page 119.

FACING CEMENT BRICK.

Often a manufacturer of cement brick has an opportunity of making four to six dollars per thousand extra for brick with an extra smooth and fine surface. The usual mixture is used for back, and a mixture of one part cement and one part fine sand for the face. This should be about ⅛ inch thick sifted into the mold to evenly distribute it over the entire bottom. The result is brick that are equally as good in appearance and quality as the very finest pressed brick.

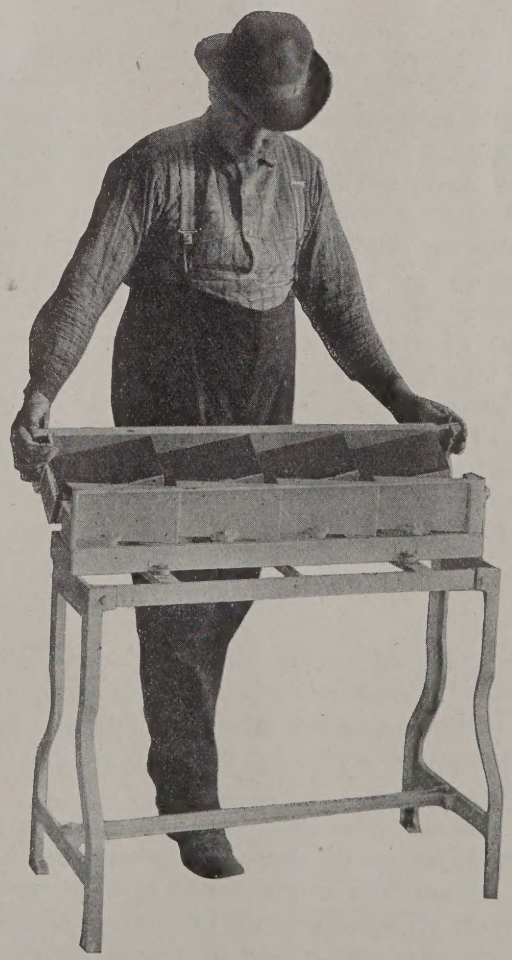


Fig. 2.

MIRACLE COLORS

The Best to Use and the Way to Use Them.

MIRACLE COLORS.

We have experimented for months endeavoring to put before our customers a line of concrete and water colors which they could fully depend upon. Colored concrete is destined to take a very important part in concrete construction, and we have been exceptionally careful on that account. We believe we have a line which will always take the lead, and which all contractors and users will heartily endorse and guarantee.

The coloring material which the manufacturers of concrete products must use, in order to be sure of the best results, and in order to be sure of the same permanent color as originally intended, are those which are natural pigments. By this we mean the ingredients must be natural colors taken from the earth, and not chemical compounds. The best coloring matter must also be free from gypsum and other sulphates which cause efflorescence. We guarantee the Miracle Colors to answer all of the above requirements.

Remember, that the cost of coloring matter for concrete is of secondary importance. A building once erected is beyond repair. Poor and cheap coloring is sure to fade. Good Miracle Concrete and Mortar Colors cost but little more, if any, and you are sure of good results.

HOW TO USE MIRACLE COLORS.

Begin by experimenting. No one can tell you exactly how much color to use for a certain shade. It depends largely upon the quality of sand and cement and the proportions used. The most important item, and yet one which is more likely to be slighted than any other, is the mixing. Mix the coloring with the cement dry, and mix it thoroughly. Be sure that all lumps are eliminated. If you cannot crush them all out with a hoe, run through a screen, but be sure that the mixture is thoroughly even. If the lumps are not all taken out, you will not develop the full strength of your color and will also have a spotted product. The sand and water may then be added, giving special care to the thoroughness of the mixing and using the same proportions exactly, as you learn by experimenting will produce the desired shade.

OUR EXPERIMENT.

In order that our customers may know approximately how much color is necessary to produce a desired shade, we have carefully carried on a series of experiments which may be relied upon only as a basis for your own experiments and as a guide in purchasing.

We have carried on these experiments mostly by making cement brick, because the demand for colored brick is larger than that for any other form of cement products; yet colored cement blocks are practical and a very pleasing effect can be obtained at a very small expense by coloring the face of the block only. It might be mentioned here that several of our customers have lately had much success in placing a colored face on the Miracle Block. We shall be glad to furnish the necessary division plates and instructions to those who wish to do the same.

The result of our experiments is embodied in the table given herewith. The quantity of color mentioned as necessary for 1,000 brick, is only an estimate for you. As above stated, you must learn for yourself the results from using your own sand and cement. The figures are based on a mixture of 4 to 1; standard size brick $8\frac{3}{8}$x$4\frac{1}{8}$x$2\frac{3}{8}$ inches and colored solid. The amount necessary to color the face of the brick will be about one-tenth of the amount for a solid brick, provided the same proportions are used; but usually a richer mixture for facing is used: (often 2 to 1), consequently to produce the same shade, the amount of color may vary.

COST.

In noting the prices quoted in the table please observe the approximate cost of color for a thousand brick, and not the cost per pound. This pointer will be of value to you in making comparison with other quotations. A color may be cheap per pound but high per thousand brick, on account of the large quantity required.

The quotations given in the table are net F. O. B. Minneapolis in barrel lots. The No. 4 Red is the only color we can sell in less than barrel lots, and the price on this color in small quantities will be three cents more per pound than the barrel price as quoted. Prices on large quantities and carload lots furnished upon request.

We can furnish you with almost any desired shade, but it will take about thirty days to make shipment on any but stock colors listed herein.

(See Next Page for Approximate Cost of Colored Brick.)

MIRACLE COLORS—Continued.

Prices and Approximate Cost of Coloring Cement Brick.

DESCRIPTION.	Approximate Amount per 1000 Brick (solid).	Price per pound f. o. b. Minneapolis.	Pounds to barrel (Approx.)	Approximate cost of color—1000 brick (solid).	Approximate cost of color—1000 brick (face only).
No. 1 Black—A natural mineral black, permanent, but not jet black. Suitable also for black mortar color.	50 lbs.	2c	300	$1.00	$ .10
No. 2 Black—A very strong, permanent and jet black.	5 lbs.	15c	30	.75	.08
No. 1 Buff—A light shade of yellow, permanent. It is difficult to get a delicate buff from a brown base. Can be used for mortar color.	150 lbs.	1½c	300	2.25	.25
No. 2 Buff—A stronger and darker shade than No. 1 Buff.	80 lbs.	3c	300	2.40	.24
No. 1 Red—A dark red shaded toward the brown—permanent, but not a very desirable shade. Sold in competition with cheaper goods. Can also be used as a mortar color.	100 lbs.	1½c	400	1.15	.15
No. 2 Red—Similar to No. 1 Red, but lighter in color, shading off to a yellow.	90 lbs.	1½c	400	1.35	.14
No. 3 Red—Produces a very handsome deep crimson, very strong and absolutely permanent. We recommend this color in preference to all others.	50 lbs.	3¼c	500	1.62	.17
No. 4 Red—A pure bright red oxide, not as dark as No. 3 Red. If the color is thoroughly rubbed out, it is the cheapest red to use. Preferred by many, as the less quantity of color, the better the brick.	10 lbs.	9c	700	.90	.09
	(Sold in less than barrel lots at 12 cents per pound.)				
No. 1 Brown—A permanent dark reddish brown; can also be used as a mortar color.	80 lbs.	1½c	400	1.20	.12
No. 2 Brown—This is stronger than above and shades off toward the yellow.	60 lbs.	2¼c	300	1.35	.14

To Color Any Cement Product.

To determine the approximate amount of coloring necessary in coloring blocks or brick of a different size than above referred to, or in coloring cement used for any purpose, the following table will serve as a valuable guide and basis for experiments. (Mixture 4 to 1.)

No. 1 Black	.543 lbs. to 1000 Cubic Inches	No. 2 Red	.977 lbs. to 1000 Cubic Inches
No. 2 Black	.054 " " " " "	No. 3 Red	.543 " " " " "
No. 1 Buff	1.629 " " " " "	No. 4 Red	.108 " " " " "
No. 2 Buff	.868 " " " " "	No. 1 Brown	.868 " " " " "
No. 1 Red	1.086 " " " " "	No. 2 Brown	.651 " " " " "

It must always be remembered, however, that these proportions are not guaranteed to produce the same shade of color under different conditions. The nature of the sand and cement as well as the amount of water used, determine largely the color produced. But by using these proportions as a basis, and a little experimenting, one can easily secure the shade desired, and be sure of maintaining that shade as long as the same sand and cement is used and mixed thoroughly in the same proportions.

How To Order.

Determine the color wanted and order by number, stating the number of barrels desired. Remember that we cannot ship in less than barrel lots any color except No. 4 Red. In less than barrel lots No. 4 Red sells for three cents more per pound than the barrel price.

MIRACLE SIDEWALK TILE MACHINES

CEMENT TILE WALKS THE BEST.

MIRACLE Cement Tile Walks are now being used in preference to any other kind in a great many places for several reasons. It is contended by some that where the temperature is subject to extreme changes, the Tile walk is superior, inasmuch as it will heave in blocks and is not liable to crack. Then again, the Tiles can be made in winter when labor is cheap. Another great advantage conceded by all in laying a walk of MIRACLE TILE, is that it is not necessary to stop traffic. A soft or surfaced-in-place walk must be enclosed for several days to cure, while a MIRACLE Tile Walk is ready for use as soon as laid.

A Large Field.
A Good Machine.
Easily Operated.
Costs But Little.
Earns Large Profits.

Lifting Off the Finished Block.

Price Only $35.00

F. O. B. Minneapolis.

THE MIRACLE MACHINE.

The stand is strong and well made, all bearing parts planed. A square Mold, planed perfectly smooth and square inside, is attached to the iron stand, which is fitted with a foot lever for raising the tile after finishing, as you will note by illustration. The different sizes—12, 14, 16, 18, 20 and 24 inches square or hexagon—are made on the same Machine, it being necessary only to change the Mold, which operation can be accomplished in a very few minutes.

The stand is strong and well made, all bearing parts planed to fit accurately, while the mechanism is so simple that there is absolutely nothing to get out of order or wear out.

The Molds can be used separately, if desired, by making a wooden stand or table, but considering the low cost of the machine, its durability and its adjustability to all sizes of Molds, it is much cheaper and more satisfactory than a home-made affair.

The Molds are cast in one piece, are heavy enough to be perfectly rigid, and, being planed perfectly true and smooth inside, insure a tile perfect in every respect. By having a different Mold for each sized tile, a perfection is obtained which cannot be accomplished by machines using fillers of wood or other material to reduce the size of a large Mold to size required.

CAPACITY.

In the City of Minneapolis alone there are over forty plants in operation making tile for sidewalk. The popular sizes in this city are 18, 20 and 24 inches square. The following are considered an average day's run of the different sizes for one tile maker and one helper or mixer:

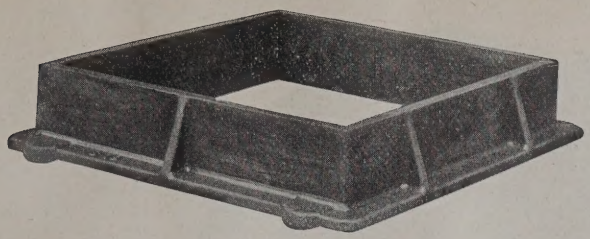
80 24x24-inch Tile.....320 square feet.
100 20x20-inch Tile.....278 square feet.
120 18x18-inch Tile.....270 square feet.

Using the mixture as indicated by these specifications, MIRACLE Tile will cost to manufacture and store in the yard, ready for delivery, from four to five cents per square foot.

SPECIFICATIONS.

Tile should be made fully two inches in thickness, the base or body of the tile 1½ inches in thickness, should be composed of one part of Portland cement to four parts of clean, sharp sand and gravel, first mixed thoroughly dry and then wet, so that when tamping, the moisture will appear at the top. The top coat, or wearing surface, should be one-half inch in thickness and consist of one part of best Portland cement and two parts of clean, sharp, screened sand. The tile should be thoroughly tamped and should be allowed to cure on the pallets for forty-eight hours, then placed in the drying yard, and should be allowed to cure at least thirty days before placing in the walk.

EXCELLENT OPPORTUNITIES IN THIS FIELD.



24-inch Mold.

LAYING.

After the ground has been leveled off and tamped to an even surface three to four inches below the proposed finished walk, place a layer of mortar thereon two inches in thickness, composed of three parts of clean, sharp sand to one part of Hydraulic or Natural Cement, mixed quite dry, or, if it is so desired, Portland Cement may be substituted for the Natural Cement; a mixture of one part Portland Cement to eight parts of sand, will be plenty strong for the base. Strike this mortar off level and lay the blocks, carefully, seeing that they are all even and the surface brought to a true grade, which should slope one-fourth inch per foot from the property line toward the street. After the blocks have been laid, dust the walk with pure cement and sprinkle. Sweep this liquid cement so produced in between the blocks. This cements the blocks together and makes it impossible for them to get out of position. Specifications for laying soft walks or cement walks surfaced in place may be found on page 93.

EXTRA MOLDS.

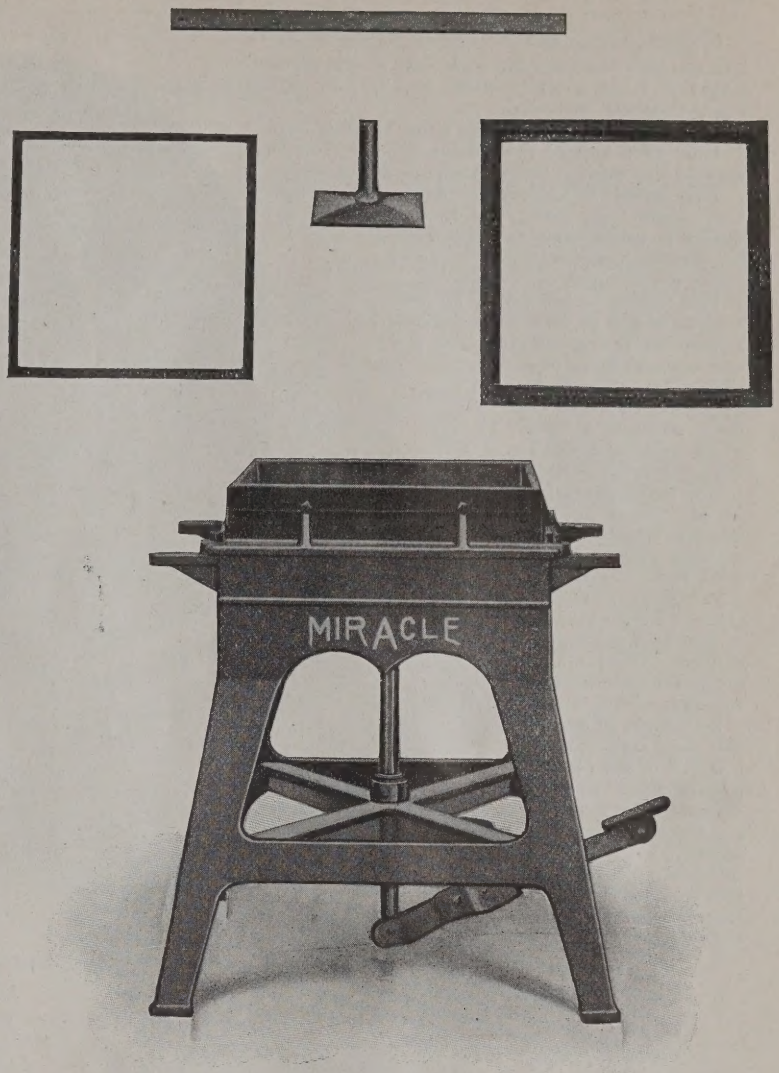
We make Molds from 6 to 24-inch sizes. However, it is not necessary to have all of them. We find the popular sizes are 20-inch and 24-inch, as with the 20-inch tile, laid three wide, you can make a five-foot walk, and with the 24-inch you can make a walk of any width in even feet.

Hexagon Molds of sizes 12 to 24 inches, may also be had and attached to the Miracle Machine.

PRICE LIST.

Price of Molds includes sample pallet, steel screed, top dressing frame, and filling frame.

Sidewalk Machine Complete (except Mold)	190 lbs. .	$35.00
6-inch square Mold	38 lbs. .	10.00
8-inch square Mold	45 lbs. .	11.00
9-inch square Mold	48 lbs. .	11.50
10-inch square Mold	50 lbs. .	12.00
12-inch square Mold	54 lbs. .	13.00
14-inch square Mold	60 lbs. .	14.00
16-inch square Mold	66 lbs. .	14.00
18-inch square Mold	70 lbs. .	15.00
20-inch square Mold	80 lbs. .	16.00
24-inch square Mold	98 lbs. .	20.00
6-inch hexagon Mold	38 lbs. .	15.00
8-inch hexagon Mold	45 lbs. .	16.50
9-inch hexagon Mold	48 lbs. .	17.00
10-inch hexagon Mold	50 lbs. .	18.00
12-inch hexagon Mold	54 lbs. .	19.50
14-inch hexagon Mold	60 lbs. .	21.00
16-inch hexagon Mold	66 lbs. .	21.00
18-inch hexagon Mold	70 lbs. .	22.00
20-inch hexagon Mold	80 lbs. .	24.00
24-inch hexagon Mold	98 lbs. .	30.00



Machine Complete for One Size Tile.

OPERATION.

The MIRACLE Machine is very easily operated. Put the pallet in bottom, fill level with top of Mold with coarse concrete, then put the top dressing frame in place and fill with top dressing on top, tamp thoroughly and level off with screed, and then trowel the tile to whatever finish you desire, then press foot lever, which will raise the finished Block, ready to carry away.

NOTICE.

In ordering sidewalk machine, specify to us the size of tile you wish to make and select your molds from the table in opposite column. For instance, if you wish to make 20x20-in. square tile and 24x24-in. hexagon tile, you would require the following:

One Machine	$35.00
1 Tamper, 6x6	1.25
1 20-inch square Mold, including sample pallet, steel screed, top dressing frame and filling frame	16.00
1 24-inch hexagon Mold, including sample pallet, steel screed, top dressing frame and filling frame	30.00
Total	$82.25

With this outfit, you have a complete machine for the manufacture of 20-inch and 24-inch sidewalk tile, which will make tile for walks 5 feet, or any even feet in width.

MASTODON CONCRETE MIXER

In presenting the MASTODON Concrete Mixer, itis our idea to supply the trade with a high grade mixer of large capacity which can be run with the very lowest power.

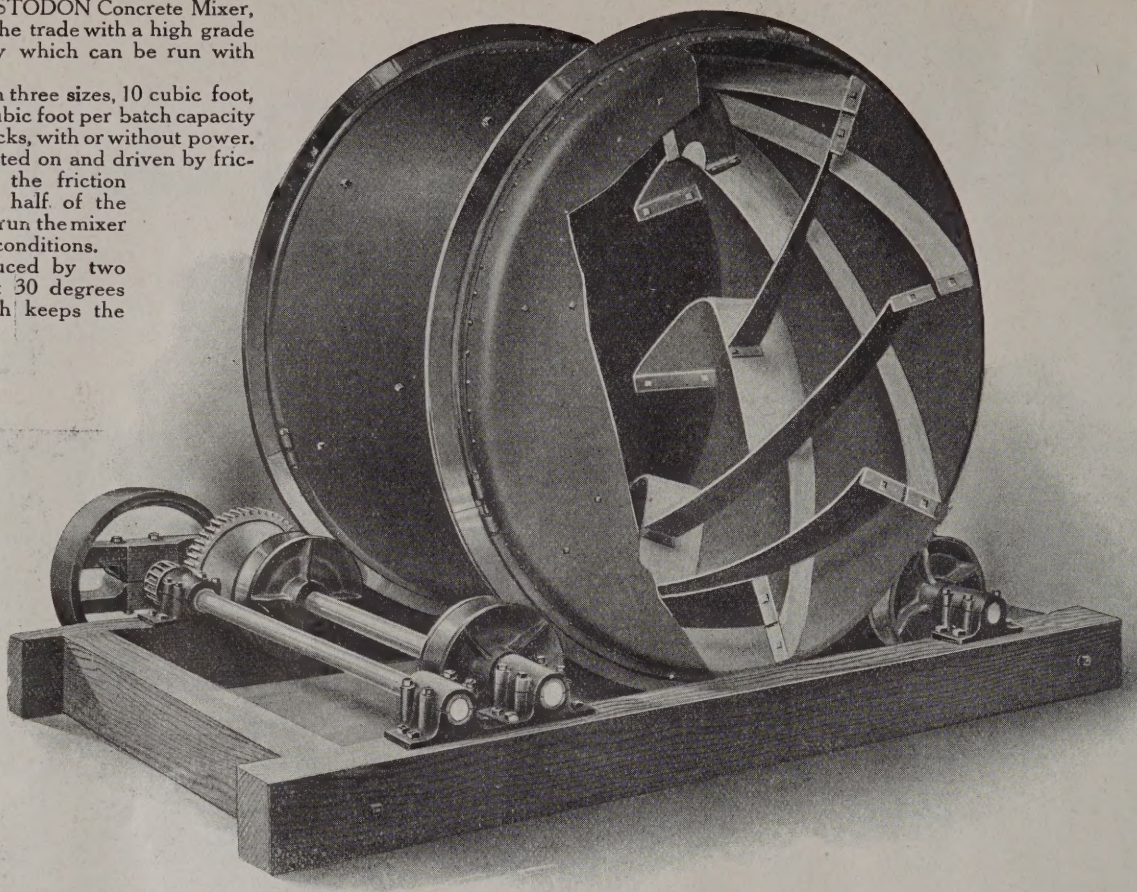
This mixer is made in three sizes, 10 cubic foot, 15 cubic foot, and 20 cubic foot per batch capacity mounted on skids or trucks, with or without power.

This mixer is mounted on and driven by friction rollers. By using the friction device is saved almost half of the horse power required to run the mixer under the ordinary old conditions.

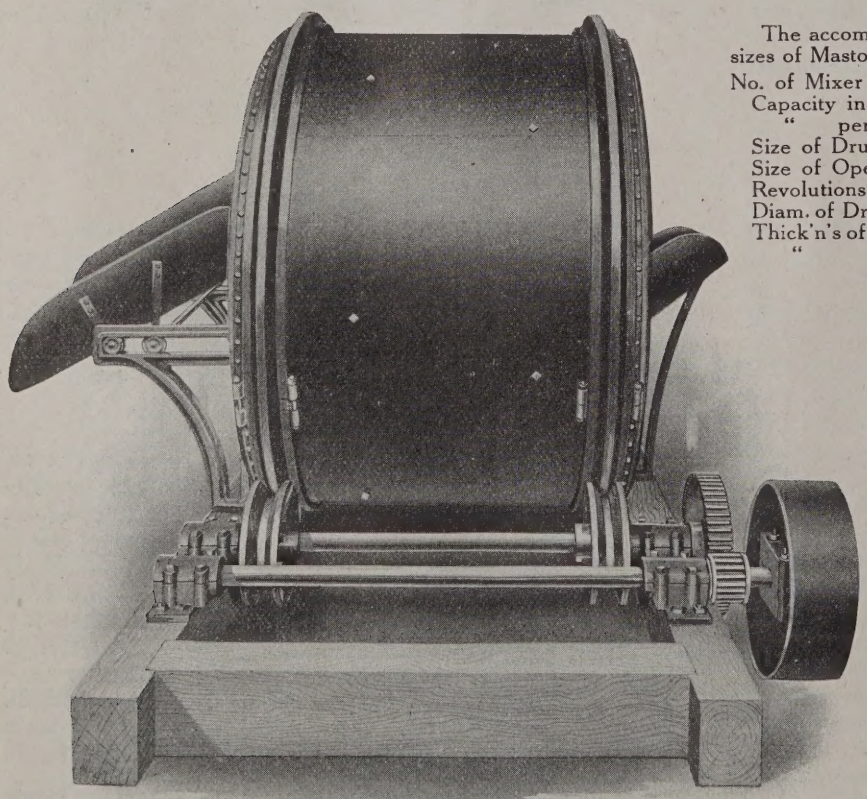
The mixing is produced by two sets of wings at about 30 degrees around the drum, which keeps the concrete rolling over and over. About six revolutions of the drum will mix a batch of concrete either wet or dry, as may be desired.

The Mastodon mixer is set close to the ground, which makes it very convenient to load and dump. Another great advantage is that it is not necessary to stop to load or discharge The motion is constant and almost automatic.

By the use of a lever, the discharge chute is inserted in the opening of the mixer and any amount of concrete desired can be discharged at will. In this way the material is carried direct from the mixer to the wheelbarrow, saving shoveling.



Inner Construction of the Mastodon Mixer. The Wings are Permanently Attached to the Drum.



The accompanying table gives the size and capacity of our three sizes of Mastodon mixer.

No. of Mixer	No. 1	No. 2	No. 3
Capacity in Cubic Ft.	10	15	20
" per Hour	10 Cu. Yds.	15 Cu. Yds.	20 Cu. Yds.
Size of Drum	36x44	42x54	42x60
Size of Opening	16 in.	20 in.	22 in.
Revolutions of Drum per M	18	16	15
Diam. of Driving Shaft	$1\frac{1}{16}$	$1\frac{5}{16}$	$1\frac{5}{16}$
Thick'n's of plate for Shell	$\frac{9}{64}$	$\frac{11}{64}$	$\frac{11}{64}$
" " " Head	$\frac{9}{64}$	$\frac{3}{16}$	$\frac{3}{16}$

CONSTRUCTION

The bearing rings on either side of the mixer are made of one solid piece of cast iron and turned to a true bearing, and riveted firmly to the shell. The rings, which rest in the groove of the four friction wheels, two of which are keyed on a shaft geared to a counter-shaft, support the weight of the drum.

The heads are flanged and riveted firmly to the shell, all riveting being done just outside of the bearing ring.

The openings in the center of the drum are reinforced by a heavy cast iron ring.

The base of the mixer is made of 6x8 timbers, bolted together and requires in floor space, for a mixer on skids without power, 5½ ft. x 8 ft. with power 5½ ft. x 12 ft.

The height over all on the No. 3 Mixer mounted on skids is 60 in.

A complete Special Mixer catalogue, which fully describes this mixer, giving price, size and amount of horse power required for each size will be sent upon application.

MIRACLE HAND-POWER MIXER

THE SUMMIT OF PERFECTION.

(EXHIBIT M.)

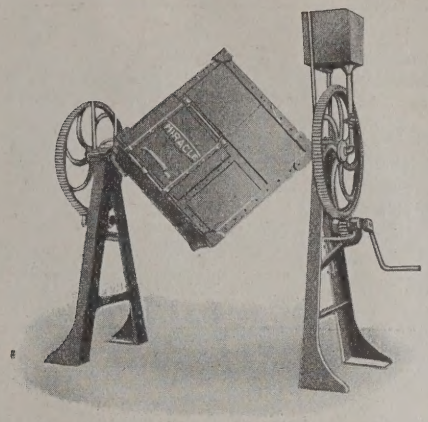


Fig. 1.

Miracle Mixer, $110.00 F. O. B. Minneapolis.

MIRACLE HAND-POWER MIXER.

Why We Perfected the Miracle Hand-Power Mixer.

Within the past few years several power mixers have been put upon the market. Many principles and forms have been embodied in these machines, most of them being adaptations from the old clay mixing machinery used for years. Many have been unable to get away from the paddle scheme, and have various forms of paddles, such as blades, or paddles on a revolving shaft, either alternately niched so as to stir the material, or all inclined so as to work the material all toward and out at one end. The former are known as batch mixers, while the latter are called continuous mixers. Another form has the paddles, or blades, attached to the inside of a cylindrical shaped body, this body revolving instead of the paddles.

While the paddle mixer is all right for mixing dough in a bake shop or for mixing clay and plastic materials, the principle is wrong when applied to concrete. First, it requires an enormous outlay of power to do the required work. Second, the machine must necessarily be built very heavy to stand the strains imposed by the power applied. Third, a heavy substantial machine as described must necessarily represent a large outlay of capital, and where no power is already available, an engine must be provided to run it. Fourth, a machine built like this, wasting much power by having useless, heavy-running parts, cannot be operated successfully by hand. In fact, very few of the manufacturers of mixers try to adapt their mixers to hand power, as they don't want a hand-power machine on the market that is successful and can be sold at a moderate price, on account of the fact that there is more profit in the larger sizes with engine or motor attached.

Taking these facts into consideration, and wishing to supply our customers with a concrete mixer cheaper and better than any heretofore offered for sale, and one adapted to small plants not employing power, has led to the production of the Miracle Cube Hand-Power Mixer. The cube, hung by opposite corners, is the most thorough mixer that has yet been devised, because the materials are shifted from side to side three complete times, as well as turned over three complete times, for every revolution of the box, or six distinct displacements of the material. The simplicity, and at the same time, the thoroughness of the operation may be nicely illustrated by taking a small cubical pasteboard box and revolving it slowly when suspended by the corners, and noticing the different movements that the material must go through when inside this box. Try it, and be convinced. This mixer requires no previous distribution of materials—just dump the sand in and dump a sack of cement on top, and commence turning.

We are proud to say that this mixer, designed for hand power, has never caused us the least trouble in any way, and of the large number sold, we have never had a single complaint.

This is not all, however. The Miracle Mixer was not put on the market merely to sell, but it serves another more important purpose. It is a protection to the various Miracle molds already placed, by making a better product, thereby adding prestige to the already celebrated Miracle products.

The following results of government tests made at Duluth a few years ago show the efficiency of machine mixing as compared to hand mixing:

Dubuque, Iowa.

Miracle Pressed Stone Co., Minneapolis, Minn.

GENTLEMEN:—We purchased one of your Hand Power Cube Mixers last fall and after a week's test of this one, purchased another. From the work done by these two hand mixers, we wish to recommend them as thoroughly efficient hand mixers, producing a thorough and uniform mixture and on work where only a relatively small amount of concrete is needed, a great saving over hand labor, both in time and cost. We believe your mixer to be the best hand mixer on the market to-day and everyone handling concrete should own one.

Very truly yours,

M. TSCHIRGI & SONS,
By. C. S. T.

Hardwick, Vt., April 30, 1908.

Miracle Pressed Stone Company,
Minneapolis, Minn.

Gentlemen:—Confirming telegram would like to have you send us immediately a Cement Mixer same as you shipped to us at Bethel, Vt. We hope you can make immediate delivery, as we need one right away.

Yours truly,
WOODBURY GRANITE CO.,
Dictated by G. H. B. Geo. H. Bickford, Mgr.

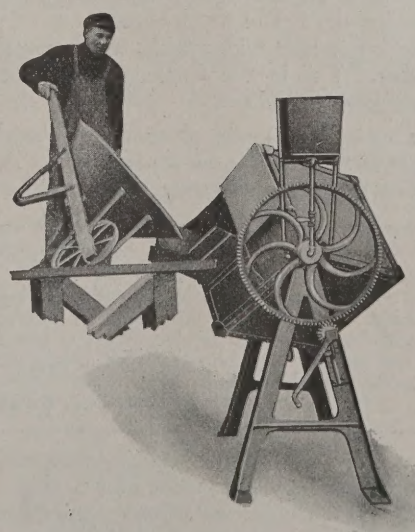


Fig. 2.
A Practical Method of Charging from a Side Platform.

Miracle Hand-Power Mixer—Continued.

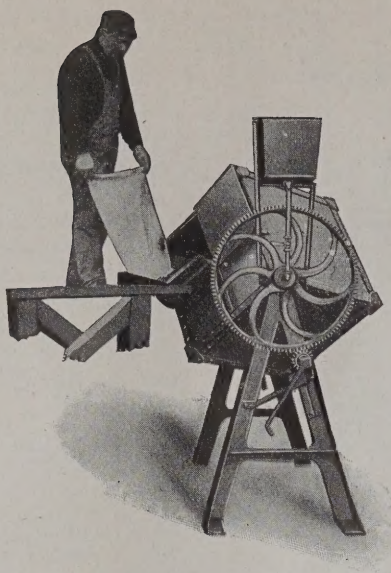


Fig. 3.
A platform like this is easily built and never in the way.

At seven days, the hand-mixed concrete showed only 53 per cent. of the strength of the machine-mixed concrete; at 28 days, 77 per cent.; at six months, 84 per cent.; and at one year, 87 per cent. This has never been disputed, and the wise contractor, in fact, we think every contractor, will sooner or later realize it and use a machine mixer.

CONSTRUCTION.

Price, $110.00. Weight, 700 lbs.

Height of "A" Frame, 4 feet, 3 inches.

Briefly described, the Miracle consists of a thirty-inch cube, hung by means of suitable castings from opposite corners, and supported by two "A" frame standards. The bearings, or journal castings, each project far enough through the boxes to receive a large gear, which in turn engages a small pinion, which is turned by means of a crank, rigidly fastened on the same shaft. The shaft containing crank and pinion is securely fastened to the frame of the machine by means of a bracket. Thus the mixer is provided with two cranks with a leverage of 6 2-3 inches, which makes it very easy for two men to turn for an ordinary batch of five cubic feet. One man can operate very nicely by reducing the size of batch slightly.

The mixer is provided with a lock, which engages the teeth of the large gear. This lock is simple, and will hold the mixer securely in any position desired.

The box, or body, is made of number 10 steel plate, the corners being re-inforced by means of angle iron. A large door opens at one of the corners to receive and discharge material.

Park Rapids, Minn., Dec. 26, 1906.

Miracle Pressed Stone Co., Minneapolis, Minn.

GENTLEMEN:—In regard to the Miracle Mixer I bought of you last fall, I would say that it more than meets my expectations. We have run it with hand power so far but expect to run it with some other power next season. Uniformity of work and its simplicity will commend it to the most skeptical.

G. H. RICE, Park Rapids, Minn.

It is further provided with a yoke made of gas pipe. This yoke supports a tank which supplies water for wetting the mixture. A perforated pipe runs from this tank through the axis of the mixer, the water being turned in by means of a stop cock when desired. This perforated pipe, which does not come in contact with the material, is the only thing inside of the box, as the sides are perfectly smooth.

This mixer can also be supplied with floor hangers, tight and loose pulleys, countershaft, etc., for power equipment, if so desired. The extra cost for these attachments is $15.00.

Hawley, Penn.

Miracle Pressed Stone Co., Minneapolis, Minn.

GENTLEMEN:—The Hand Power Cube Concrete Mixer recently received from you is O. K. Cost us with Express charges about $140.00.

On a building 45 x 100, 288 yards concrete, we saved half the $140.00 in labor, and consider the machine paid for itself on the above job, on account of the MIX being so much better than we could do with hoe and shovel.

Please mail us your 1907 catalogue and price list.

Yours truly,

ESTATE OF JOSEPH ATKINSON,
Per H. J. Atkinson.

OPERATION.

Although the illustrations show methods of filling the machine by elevating the material, it is most practical under ordinary conditions to fill from the level. The height is not above an average man's waist, and a sack of cement or a bucket of sand is easily lifted and dumped. It is sometimes quicker and more economical, however, to elevate the materials, either by wheeling up a runway or by other means, as may be convenient. Hence, the illustrations. The sand may be dumped in from the top, through the hopper, if sufficient head room is available, or a runway may be built at one side about four feet from the ground, and a chute hinged to this runway so as to be turned back out of the way when mixer is turning. (Figs. 2 and 3.)

This latter method is the better where materials have to be elevated by hand. The cement is now thrown on top of the sand and the door closed. The mixer, of course, is locked in position while being filled, and must be unlocked before trying to turn.

TURNING.

Turn the mixer at a moderate gait, so that it would make eight or ten revolutions per minute. Five or six revolutions, dry, thoroughly mix the materials, as each revolution turns the materials over three times. This means fifteen to eighteen turnings while dry. Water is then let in without stopping the mixer, and after five or six more revolutions the mixture will be found to be perfect in every way. The tank can be previously filled

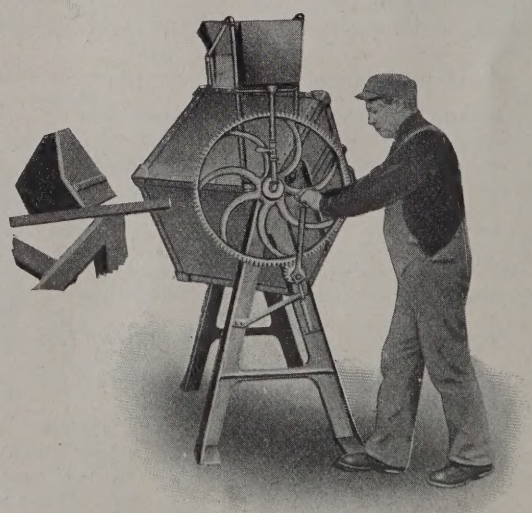


Fig. 4.
The turning is simple and easily accomplished.

with just enough water to wet the batch, this amount having been determined by experiment. So it will be seen that the degree of moisture can always be kept uniform.

Compare the above method with hand mixing, three times dry and three times wet, and notice the lack of uniformity in the hand mixture. Compare the time of mixing and wetting the machine batch, about one and one-half minutes, with the time it would require to do it by hand.

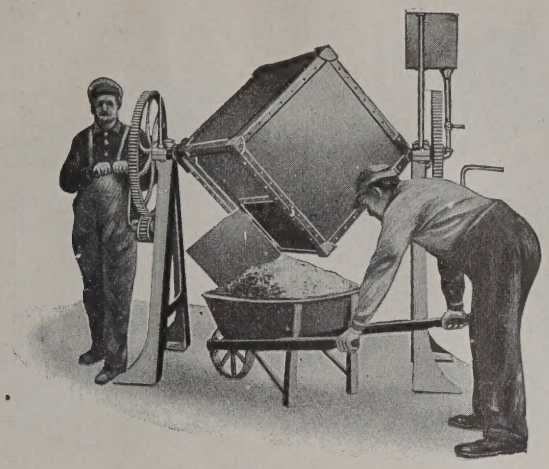


Fig. 5
Showing two men Operating. Catching the Discharge.

DISCHARGING.

When the requisite number of turns have been made, the door is opened, allowing the contents to run out, when this side reaches its lowest point. The concrete may be caught in a wheelbarrow run under for that purpose, or, if being used in a machine adjacent to the mixer, may be dumped on the floor and shoveled up as desired. The mixer stands high enough from the floor that a common mortar barrow can be run under it.

CLEANING THE MIXER.

With paddle mixers and others this is an important feature of operation. In making the semi-dry mixtures, as for blocks, bricks, etc., THE MIRACLE NEEDS NO CLEANSING—it keeps itself clean; while for sloppy mixtures a few gallons of water turned around a few times wash it out effectually. The smooth sides of the Miracle cannot catch and hold any material.

CAPACITY.

The thirty-inch cube will hold, if packed full, about 15½ cubic feet of material. It does its best work when about one-third full, or with about four cubic feet of sand to one sack of cement, this being about the usual batch.

This mixer will easily keep three crews going with Miracle Block Machines, mixing material for about 450 12-inch blocks or 600 9-inch blocks, in ten hours.

The Miracle Mixer was designed, first to produce a better concrete at a less cost, and second, to save money for its user. It does both in a most highly satisfactory manner. It secures a much better product by producing a thoroughly and uniformily mixed concrete and saves money in the greatly reduced cost of the labor of mixing. Labor is the great item of expense and every time you cut it down or make it more efficient you are adding that much clear profit to yourself.

We want you to try our Mixer. Remember our guarantee. If you want to correspond with some one who is now using this machine, we will gladly give you references. Read the following letter:

OFFICE OF
GEO. NICHOLS, AGENT.
H. O. STONE ESTATE.
59 DEARBORN STREET, ROOM 609.
CHICAGO.

TELEPHONES:
CENTRAL 4681. AUTOMATIC 5306.

CHICAGO, FEB. 7, 1906.

Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gentlemen:

I am more than pleased with your "Cube Mixer". It is a great labor saver, and mixes more thoroughly and of more perfect consistency than we have been able hitherto to do by hand.

I would not part with it for twice its price. I am working right through the winter, piling up the blocks in readiness for the spring business.

All hail! "The Miracle Block Machine and Cube Mixer".

Respectfully,

Geo. Nichols
7565 Bond Ave
Chicago Ill

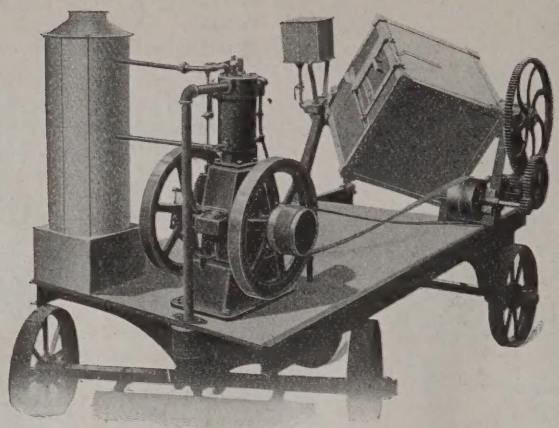
WHY NOT ORDER NOW?

Mr. Nichols is still running this mixer.

Miracle Mixer on Trucks.

Hand Power Mixer, equipped for both hand and power,

$125.00



Adjustable Attachment for converting hand power mixer to power mixer,

$15.00

PRICE, $400 F. O. B. MINNEAPOLIS.

A practical, portable machine for sidewalk work; also block work, where it is desired to move the machine from job to job.

Equipped with 2 H. P. Gas Engine, 8-gallon Gasoline Tank, 25-gallon Water Tank.

Length over all, 5 feet.
Width over all, 5 feet 2 inches.
Width of Platform, 4 feet 7 inches.
Length of Platform, 8 feet 6 inches.
Platform floored with 1-inch elm.
Wheels 24 inches in diameter, 8-inch hub.
Axles, 2x2 inches, steel.
Bolsters, heavy cast iron.
Oak pole.
Mixer complete with gears and clutch.
Height of Platform over ground, 30 inches.
Shipping weight, 2,500 pounds.

The Cube Mixer, Mounted, is furnished in the same size as the Hand Power Machine, or 30 inches square, with about 15½ cubic feet of space on the inside. It is large enough to handle a batch of from 5 to 8 cubic feet of material. It mixes both wet and dry, water being added by means of a perforated pipe which runs through the axis and connects to the water tank, fastened to the outside. The Cube principle mixes thoroughly and quickly, but the greatest advantage is that it can be operated with the very smallest horse power engine. A 2 H. P. engine will handle it with ease, where a paddle mixer that would handle the same size batch would necessitate an 8 H. P. machine.

For sidewalk work this machine can be hauled right over the excavation and the mixed material dumped right into place.

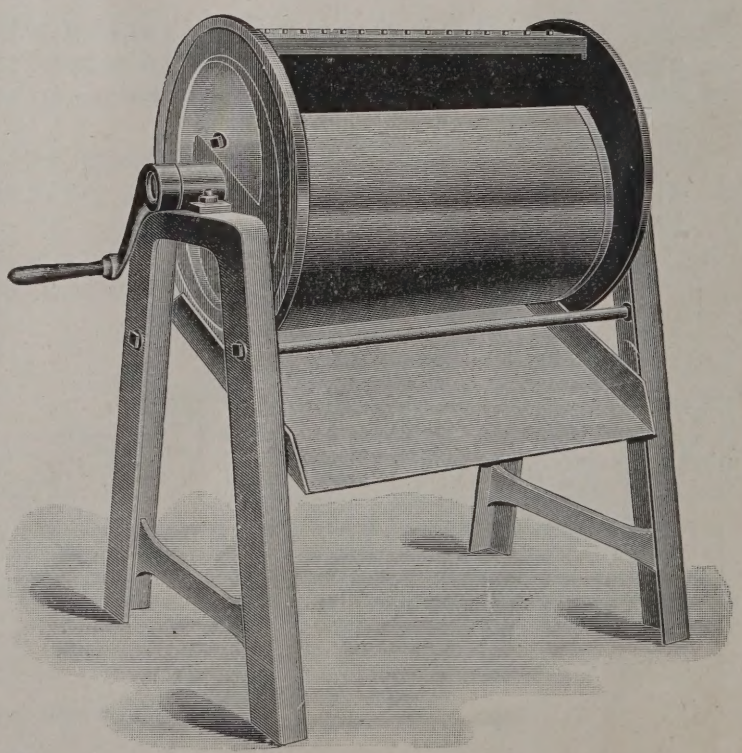
Furnished complete, with 2 H. P. Vertical Type Miracle I. H. C. Engine, mounted on trucks, $400.00 F. O. B. Minneapolis. Price, $275.00, mounted, without Engine.

MIRACLE X-L-ALL MIXER

(Patent Applied For)

THE MACHINE FOR THE OPERATOR WHOSE WORK ONLY JUSTIFIES A VERY SMALL INVESTMENT.

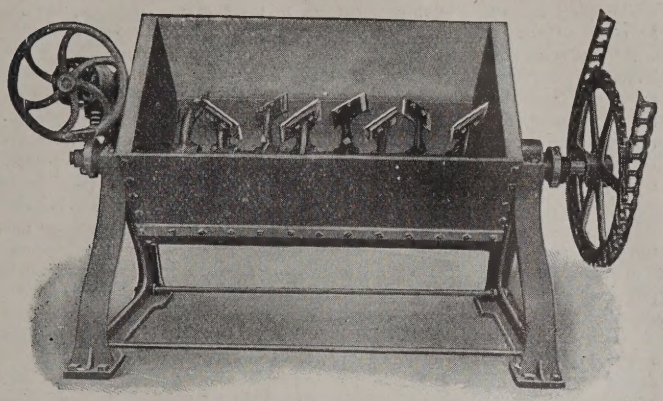
This machine, which is made in the following sizes, will save money and afford better concrete, even if only a few hundred cubic feet of concrete are to be used in a small building and a solid piece of concrete work, such as a foundation, or a small piece of private sidewalk. It mixes perfectly and rapidly. It is durable, and will still be worth the price paid when you are through with it.



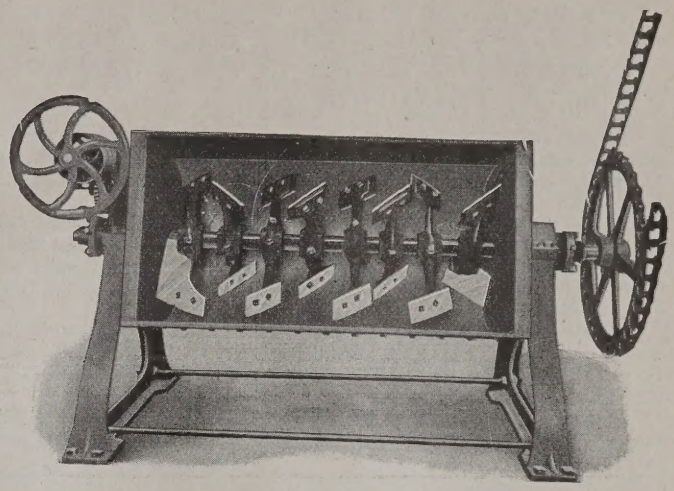
SIZE, CAPACITY AND PRICE LIST.

No.	Size of Cylinder	Gauge of Steel	Capacity per batch	Cu. Yds. Per Hr.	Turns of Crank	Shipping Weight	List Price
1	24x32	14	1 Cu. Ft.	1-1½	12	350	$31.50
2	32x32	14	2 Cu. Ft.	2-2½	12	425	45.00
3	32x42	12	3 Cu. Ft.	3-4	36	600	58.50

MIRACLE WINNER CONCRETE MIXER, $200.00



The above cut shows the machine in position to receive material and to start paddles revolving.



This cut shows the machine at half dump, or in the best position to clean or make any adjustments.

To the man who is doing extensive concrete work we offer the MIRACLE Winner Mixer, which is made in four sizes, 4, 5, 6, and 7 feet in length. The 4-foot Mixer will handle one-quarter of a yard and mix the same thoroughly in three minutes. The 7-foot Mixer will mix one-half yard in same length of time.

The machine is easily cleaned, which has always been the objection to a paddle or power Mixer. After your material is thoroughly mixed a gear at the left end of the machine turns it completely over with the paddles still moving, and dumps material either onto your floor or into cars or wheelbarrows. In this way you are assured that every particle is taken from your Mixer. A five-horse-power gasoline engine will furnish plenty of power to run the 4-foot Mixer and you will find one man and the MIRACLE Winner 4-foot Mixer will easily mix material for three MIRACLE Block Machines.

DIRECTIONS.

In four-foot machines put two wheelbarrows of sand and two bags of cement, spreading the cement the length of the machine, start mixer and let run for one minute. Then spray (from a perforated pipe, which should be run above the mixer) until the mixture is wet to the consistency you desire. Let machine run for two minutes more, then dump. For colors (for which the machine is very well adapted) always mix the color with the dry cement first, after it is thoroughly mixed add and moisten as you wish.

FIVE REASONS WHY THE MIRACLE WINNER MIXER RANKS AMONG THE BEST POWER MIXERS.

FIRST.—Because you can mix material at any temperature, dry, wet or slush. It will handle crushed rock, sand or gravel in any of the above temperatures.

SECOND.—It will mix any color of material, just as easy and as perfect as sand and cement alone.

THIRD.—You have your material in sight of your eyes at all times, so you haven't the least trouble in always getting the same moisture. This item is very essential in colors, for in changing the moisture you change the color.

FOURTH.—No trouble to clean, as there is lots of room to get at all the different parts and you can place blades, etc., in any position to get at them conveniently.

FIFTH.—It is made of Cast Iron, Malleable Iron, and Steel—every part adjustable. Has bushing boxes to keep out the dust and grit. Has trungens on the side heads to carry heft of material.

We can furnish any of the above sized Mixers mounted on trucks or skids with or without steam or gasoline engines.

Statistics show conclusively that success is more universal among those using the Miracle Exhibit "A" Outfit than any other class of Cement Block Manufacturers.

PRICES ON VARIOUS SIZES ON WINNER MIXER, F O. B. MINNEAPOLIS.

	Selling Price.
4-ft. Winner Mixer	$200.00
5-ft. Winner Mixer	225.00
6-ft. Winner Mixer	250.00
7-ft. Winner Mixer	275.00

PRICE MOUNTED.

	Selling Price.
4-ft. Mixer, Mounted	$250.00
5-ft. Mixer, Mounted	280.00
6-ft. Mixer, Mounted	310.00
7-ft. Mixer, Mounted	340.00

	Selling Price.
Trucks for 4 ft	$50.00
Trucks for 5 ft	55.00
Trucks for 6 ft	60.00
Trucks for 7 ft	65.00

GENERAL INFORMATION.

FROM MIRACLE EXPERIENCE.

THE IOWA STATE COLLEGE EXPERIMENT STATION HAS JUST COMPLETED A SERIES OF EXPERIMENTS WITH REGARD TO THE WATERPROOFING OF CEMENT BLOCKS.

Various methods, mixtures and compounds were tried and the blocks tested for strength and permeability. One compound used was the R. O. U. Waterproofing, put out by the Miracle Pressed Stone Company of Minneapolis.

The blocks were set in a machine and sprayed in such a manner as to as nearly reproduce a driving rain as possible. While several compounds gave good results, the R. O. U. was the only one that made the block absolutely waterproof. In spite of the driving rain against the face of the blocks the water only penetrated one-eighth of an inch.

It was thought that this absolute waterproofing might retard the cement and weaken the block. On the contrary, the blocks made with R. O. U. showed at least 25% stronger than the next strongest block. R. O. U. does the business.

In these experiments, 2%, 1%, and ½% of R. O. U. were used and all gave practically the same results, both as to waterproofing and strength.

R. O. U. Water Proofing

Will Overcome Your Old Enemy Moisture and Efflorescence

FOR CONCRETE CONSTRUCTION.

Not Only for Waterproofing Concrete Blocks, but Equally Good for

CELLARS, CISTERNS TANKS, FLOORS, Etc

R. O. U. Compound—In sacks of 50 lbs. per lb. 12c., discount on ton lots.

A $50. Sack will waterproof concrete made from 12½ bbls. of cement.

R. O. U. Liquid Waterproofing — **R. O. U. Mold Wash**

Costs about 1c. a square foot to waterproof concrete.

In 1-gal. cans..per gal., $1.50
5-gallon cans..per gal., $1.40
Barrel lots ....per gal., $1.30

In 1-gal., cans..per gal., $1.40
5-gallon cans...per gal., $1.35

(See opposite page.)

LAYING MIRACLE BLOCKS.

To secure a warm, dry and frostproof building, the same amount of care, at least, should be exercised in laying cement blocks as would be taken in laying any other material. Don't think that because it is a cement block, it can be thrown into the wall and then make a good building.

In laying the MIRACLE Blocks, the three perpendicular walls of the blocks should be given a bed of cement, the ends should be buttered up carefully, and after each course has been laid, the person in charge of the wall should go along the wall with a pail of soft cement mortar and carefully fill the perpendicular oval holes formed by the half-oval openings at the end of each block, this filling serving a double purpose of keying the wall and making an absolutely tight joint.

SIDEWALK SPECIFICATIONS.

Specifications for Soft Walk or Cement Walk Surface in Place.

The following specifications for cement walks are about the average used and approved by competent engineers throughout the United States, and if followed explicitly will make an absolutely reliable job.

After grade stakes have been set, the earth shall be excavated 9 inches below the surface of the proposed finished walk, and if there is any rubbish, manure, or other soft material below this point, it shall also be removed, and the place where it has been taken from filled in with good, solid earth, which shall be thoroughly rammed. After the excavations have been done there shall be placed thereon a bed of sand, gravel or cinders, 5 inches in thickness, which shall also be thoroughly rammed and dampened. When the subsoil is black dirt or sandy loam, a foundation of one or two inches of sand will suffice.

Upon the foundation so prepared shall be placed a layer of concrete which shall be, when tamped, 3 inches in thickness. This concrete shall be made of one part good Portland cement, of any brand which complies with the standard specifications of the American Society for Testing Materials, to three parts of clean, sharp sand and five parts of screened gravel or crushed rock. In preparing this concrete, the measurements shall be by volume, and the materials thoroughly mixed dry before water is applied. In mixing by hand, the ingredients shall be turned at least three times dry and two times wet; sufficient water shall be added so that it will appear freely at the top when tamping. The concrete shall be put in place in not to EXCEED THIRTY MINUTES FROM THE TIME the water has been applied. Any concrete not used in thirty minutes after wetting shall be rejected and regarded as common sand. This concrete shall be thoroughly rammed and struck off to an even surface one inch below the grade of the finished walk. This surface shall be smoothed off with a trowel to receive the top coat.

Top Coat shall be made of one part of Portland Cement, as specified above to two parts of clean, sharp, screened sand, which shall first be mixed dry and then wetted to the consistency of a thin mortar, which mortar shall be placed upon the concrete to the thickness of one inch, inside of thirty minutes after the concrete shall have been laid. This top coat shall be struck off level with the side frames and troweled into the concrete with plenty of pressure applied to unite the two. Top coat shall be finished with a trowel or wooden float, to a smooth or rough surface as desired.

As soon as the top coat has been applied and finished, walk should be cut into square or rectangular blocks, not exceeding five feet the longest way; and the joints shall be neatly finished with a groover, and the edges finished with an edger. Where a full block of walk is continuously connected up with cement street crossing, there shall be provision made for expansion by placing expansion joints at least every 300 feet; such joints to be at least 2 inches in width and filled with sand.

CONCRETE STREET CROSSINGS.

The foundation for concrete street crossings shall be the same as for sidewalks. The base shall consist of a layer 4½ inches deep, composed of one part of Portland Cement and four parts of clean sand and gravel, thoroughly mixed dry, properly wetted as above and tamped to uniform grade. The surface shall consist of a layer 1½ inches thick, composed of one part Portland Cement and 1½ parts of good, clean, sharp screened sand, thoroughly mixed when dry and wetted to a consistency of thick mortar, which top surface shall be thoroughly troweled into the base and finished to conform with a grade established by the City Engineer.

CONCRETE CURBING.

After excavating to a proper depth, set frames for curbing with spreader board between, not less than four feet apart. Brace frames thoroughly opposite these spreading boards, keeping the outside frame at all times in line. Concrete for curbing should be composed of one part Portland Cement to five parts clean, sharp sand and gravel, thoroughly mixed dry and then wet to a proper consistency. After the concrete has been thoroughly mixed, tamp in place, using sheet iron division plates to cut the curbing in sections not less than four or more than six feet in length. The top coat of curbing shall be at least ½-inch in thickness and shall consist of one part of Portland Cement to two parts of clean, sharp, screened sand, and should be thoroughly smoothed off with a trowel on the edges and finished to its desired shape with an edger or curb tool.

For business street, curbing should be from 18 to 22 inches deep and 5 inches in thickness at the top and 7 inches at the bottom. For residence, curbing may be 14 or 16 inches in depth, but of no less thickness than for street curbing.

There has been a great deal of discussion during the past few months as to whether it is best to put the curbing on a business street outside of the walk or let the walk rest on the curbing. The writer's experience, passing through a period of eight years, has shown the latter method to be preferable; that is, let the walk rest on the curbing. This allows the walk to slide back and forth on the curb as it expands and contracts without disturbing the curb, while if it is placed outside the walk the expansion of walk often displaces the curb.

Brillion, Wis., May 7, 1908.

Miracle Pressed Stone Co.,
Minneapolis, Minn.

Gents:—Please enclosed find check of $1.40 for one gal. Mold Wash R. O. U., we have tried it with very good results. It certainly is good, but that one gal. cost us 60c freight, that makes it quite expensive. Next time we will get a five gal. can, the freight probably won't be any more either.

Yours truly,

J. KOCH.

CONCRETE WATERPROOFING.

It is conceded by all who have made a careful study of the concrete block industry that in order to satisfy the public and users of concrete blocks, it is essential to overcome, as far as possible, the dampness and subsequent efflorescence, which appears on the outside of a wall following heavy rains.

Many attempts in this direction have been made, some with a greater degree of success than others. We have found the greatest success accomplished by the use of a compound which is mixed with the cement. Although in using such a compound extreme care must be taken that whatever material is used to waterproof must itself readily mix with water, so that when it is mixed with cement it will not prevent the addition of enough water to make sure that a thorough crystallization takes place. In other words, a waterproofing compound, in order to do the work must have certain properties, which are only developed when brought into contact with the constituents of the concrete. When these are mixed together and sufficient water is added, it is then that the waterproofing property becomes active.

R. O. U. is just such a waterproofing compound as described. We are on safe ground when we say that it is the only material which fully answers all the necessary conditions and fulfills all the essential requirements of a perfect waterproofing compound. For it is the only waterproofing material that will last permanently. R. O. U. will not melt when subjected to heat, no matter how strong. This can be proved by a very simple test. Take a piece of tin, place on one end some of our R. O. U., on the other end a sample of some other compound, which comes in the nature of a powder. Place lighted candles underneath and watch the results. You will find that R. O. U. is not in the least affected by the heat, but invariably the other material will resolve itself into molten mass. You can draw your own conclusions as to its composition.

R. O. U. will hold its resistancy to water and dampness as long as the concrete remains intact. Therefore a practical concrete worker will not be deceived into believing that, because certain compounds which are called waterproofing happen to show a resistance to water, they will have that property when mixed with cement or incorporated as a part of the concrete. It is true, they may, being of a waxy nature, serve for a short time. They may fill the pores and so for awhile prevent the entrance of water, but this cannot last. Under the influence of time or heat they will become diffused, lose their power, leaving the concrete in the same absorbent condition as before they were added to it.

It is the lasting qualities of R. O. U. that we wish to emphasize, that is, it is something that the sun's rays cannot affect, neither can changing temperatures. Moreover, it is crystallized througout the mass and so thoroughly incorporated with the concrete that all power of absorbing water on the part of the concrete is forever destroyed.

COST OF R. O. U.

If used as a waterproof facing for concrete blocks, a barrel of Portland cement waterproofed with R. O. U., mixed with a proportion of three parts of sand, will yield one-half inch coating for 280 square feet, and at 12c a pound for R. O. U. this would make 30c per hundred square feet, or about one-fourth of a cent per block. If the waterproofing is carried throughout the block, the cost would be about one and one-half cent per block.

R. O. U. is also used to good advantage in plastering reservoirs, finishing floors, water tanks, etc., and the cost of a 2-inch cement mortar on a one to three mixture would be $1.22 per hundred square feet. For a three-fourth inch coating the same composition, the cost would be about 45c per hundred square feet. To secure a perfect bond, 2-inch should be used on floors, and on vertical surfaces the thickness should be at least three-fourth inch.

R. O. U. is put up in paper sacks, placed inside of canvas bags, 50 pounds to the sack, and sells at 12c per pound, f. o. b. point of shipment. All deliveries west of Chicago will be made from Minneapolis and deliveries east of Chicago from our eastern warehouse, so as to minimize freight rates.

It is due you, who are trying to make and market the very best product than can be made, to order at least a 50 pound sack of our R. O. U. and give it a trial,—making up a sample with and without the compound, and after making comparative tests, I think without question you will obtain far larger prices for your product containing this material than that made without it.

We are prepared to quote special prices on ton lots and over. We carry a complete stock on hand at all times in Minneapolis and can give your orders very prompt attention.

R. O. U. LIQUID WATERPROOFING.

For waterproofing concrete structures already erected, we have perfected and just placed upon the market our R. O. U. Liquid Waterproofing No. 2.

It seals the surface of the outer wall against water and atmospheric moisture by preventing absorption of moisture; following the evaporation of the same it checks the tendency toward efflorescence. It affords a water-tight surface to concrete blocks, swimming pools, reservoirs, stand pipes and parapet walls.

If driving rains and atmospheric moisture are allowed to expend themselves upon exterior masonry walls, the stone, brick or concrete and mortar must suffer in a way to seriously affect the durability of the building. Even though the inner walls be secured from dampness by a waterproof coating, the unrestrained action of rainstorms and atmospheric moisture on the outer walls will hasten the decay of the masonry, although the inner walls themselves remain dry. The salts in the masonry, stimulated into action by dampness, exude, and burst out in the disfigurements known as efflorescence, which is not only unsightly, but destructive, since efflorescence, in itself, becomes in time a generator of dampness.

R. O. U. Liquid Waterproofing No. 2 is furnished in barrel lots at $1.30 per gallon, in half barrel lots at $1.35, in five-gallon tin cans, boxed, $1.40 per gallon, in one-gallon cans at $1.50 per gallon,—all f. o. b. Minneapolis.

R. O. U. MOLD WASH.

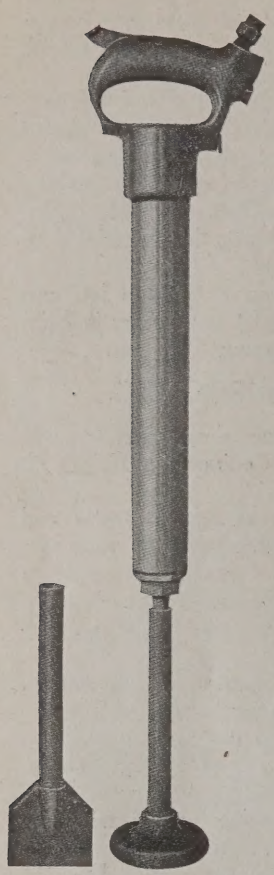
It is an acknowledged fact by those who have taken occasion to study the proposition carefully, that 90 per cent of the people manufacturing concrete blocks or concrete products of a similar nature are using their material too dry. Now the absence of a sufficient quantity of water always makes concrete porous and more susceptible to absorption, as well as of less strength then when made real wet. In order to facilitate the use of a more moist concrete,—in fact, of a concrete so wet that it will barely retain its shape when taken from the mold and at the same time not stick to the face plates, we have just placed on the market a mold wash known as R. O. U. Mold Wash, and which we are prepared to recommend and guarantee. This mold wash will not stain or discolor concrete, but will at the same time permit the use of a very wet mixture without producing a sticky or dauby appearance in the resulting products.

In the manufacture of ornamental products, such as porch columns, lawn vases, newels and the like, it is especially desirable to use a very wet mixture; in fact, a material so wet that it can be poured will produce the best results and right here is where the R. O. U. Mold Wash comes into play to the best advantage.

The R. O. U. Mold Wash comes in one-gallon and five-gallon cans, priced as follows:

In one-gallon cans, $1.40 per gallon f. o. b. Minneapolis.
In five-gallon cans, $1.35 per gallon f. o. b. Minneapolis.

MIRACLE AIR TAMPER



MIRACLE AIR TAMPER.
$95.00.
F. O. B. Factory.
Weight, 18 lbs.

MIRACLE AIR TAMPER.

Reduces Labor — Assures a Good Block.

The Miracle Air Tamper is one of our most practical products. It is most easily operated and assures an evenly well tamped block. Hand tamping is good if done properly—if the material is made compact, but when incompetent men are hired to do the work, they sometimes shirk their task a little before night, especially if the "boss" isn't around. A few poor blocks will spoil a wall and ruin a business. It is therefore better to hire the best of conscientious workmen to do the tamping and be sure of good results. But this class of workmen come high in some localities, and even if it were to be had at the lowest price, it is not so low that the practical man would eliminate it from his expense if he could.

The Miracle Air Tamper serves a double purpose. With it anybody can make a good block; in fact, they cannot HELP but make a well tamped block, as careless as they may be. The reduction of labor is, however, the most prominent point of merit. With the Miracle Air Tamper, two men instead of three, operate a Miracle Mold. One man does the tamping and the other assists him, both in releasing the block and by delivering the mixture. Thus we cut out one man. Aside from this, the two men can produce twice as many blocks per day as three men by hand tamping. Where two or more machines are used it is a great saver of time and money. One man can tamp as high as five or six blocks if work-benches are conveniently arranged, while other laborers are delivering the mixture, filling the molds and carrying away the blocks. Labor then, in proportion to the quantity of blocks turned out in a day, is reduced over 80 per cent. How long would it take you to save the price of an air tamper?

If you are operating two or more molds, one air tamper can be worked to advantage by one experienced man. Other men, as many as are necessary, can be employed to mix, fill the molds, release the blocks and carry them away. In this manner, a team can be organized who can produce thousands of perfect blocks daily and at the very minimum of expense.

To the man who is running a power mixer, the cost to equip with an Air Tamper is very small. All that is needed is an Air Compressor and Tank, and the Tamper. We give here a cut of the MIRACLE Tamper manufactured especially for us, equipped with a special foot to work around our cores. As can be seen from the picture, the tamper can be used with one hand, the air supply being regulated by a lever in the handle, thus giving the workman complete control of its operation. The Tamper weighs but 18 pounds and operates best with an air pressure of 60 to 80 pounds, and strikes respectively 350 to 500 blows per minute. The tamping heads can be made to suit the size of the machine, size and spacing of the cores, etc.

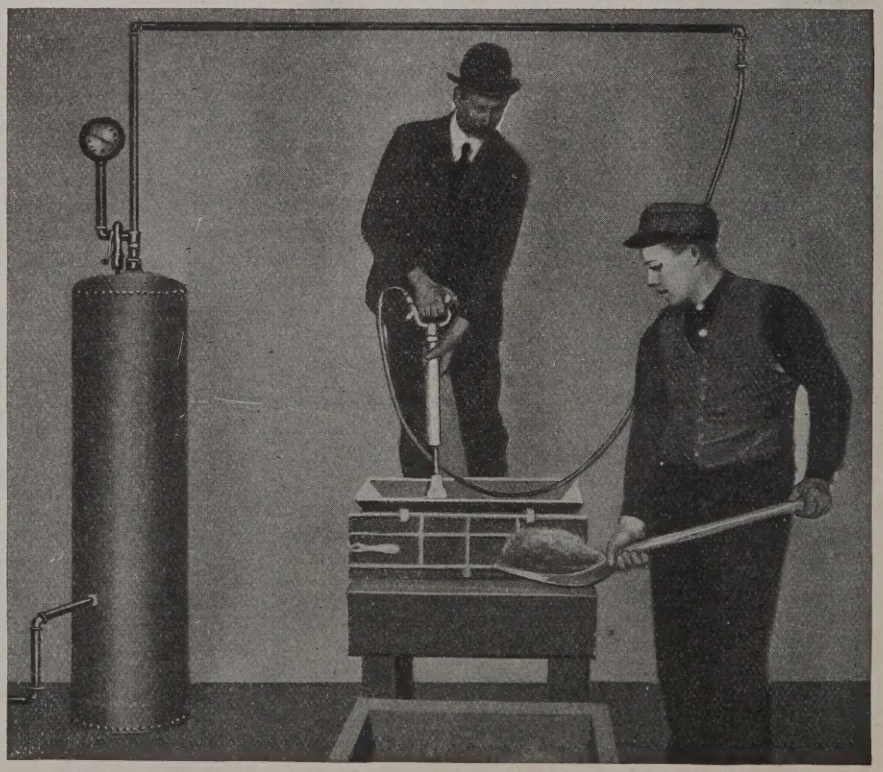
The "MIRACLE" Tamper is so proportioned that there is no jar while in operation, the inertia of the moving parts being absorbed by the weight of the machine. The valve mechanism and piston are entirely closed, and all care is taken to keep out dirt. The Tamper rod is hexagon in shape to prevent turning except at the will of the operator.

A man weighing 200 pounds can stand on a freshly made air tamped block. Under test it has resisted 1000 lbs.

A COMPLETE OUTFIT.

Below we show an Air Tamper in actual operation. The complete outfit, Tamper, Tank and Compressor (see illustrations) costing $350.00. A few months will save at least twice that much in the labor bill of an ordinary busy plant. A further advantage is recognized in the high quality of the stone produced. Figure it out for yourself. It's cheap in view of the large saving that is made possible and of the factory cost of the outfit.

Tamper	$ 95.00
Air Tank, 30 inches by 6 feet	75.00
6x6 Compressor, with Gauge, Safety, etc. (requires 6 H. P., 30 ft. per minute)	180.00
Total cost of first-class complete equipment	$350.00



Making an Air-Tamped Block.

FAIRHURST No. 1 AIR COMPRESSOR

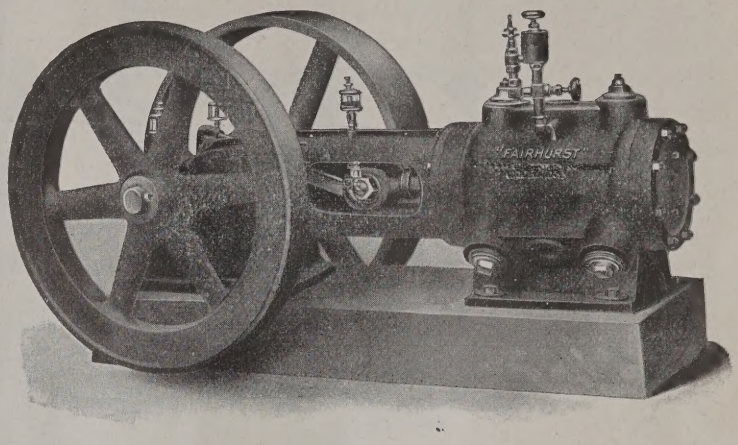
The Fairhurst No. 1 Compressor is a design peculiarly adaptable to the Miracle Air Tamper—preceding page.

The Compressors are compact, durable, accessible and economic in power consumption. They are built with cylinder, water-jacket around cylinder and head, rapidly removable inlet and discharge valves. Each valve and seat being removable for cleaning or other purposes, without disturbing any portion of the machine. The crank shaft is of forged steel, the connecting rods of steel with adjustments, cross heads and guide of the round-bored type with adjustments top and bottom.

The Compressors are equipped with suitable flywheels and pulleys, necessary lubricating devices, wrenches, and all mountings complete. They are guaranteed against any defects through faulty workmanship or materials. They can be mounted on a wooden, stone or cement foundation, as suits customer's conditions.

The Fairhurst No. 1 Compressor (6x6) has a capacity of 30 feet free air per minute. Diameter of air cylinder is 6 inches; length of stroke, 6 inches; air inlet, 1½ inches; air discharge, 1½ inches; takes 150 strokes per minute. It requires 4½ H. P. for 60 lbs. air pressure or 6 H. P. for 100 lbs. air pressure. It will operate two Miracle Air Tampers, each requiring 15 feet of free air per minute. Approximate weight, 1,000 lbs.

Price, Fairhurst No. 1.....$180.00 F. O. B. factory
Price, Fairhurst No. 2, 6-inch diameter, 8-inch stroke, 52 feet free air, requires 8 H. P. for 60 lbs. pressure, or 11 H. P. for 100 lbs. pressure.....$200.00 F. O. B. factory



Fairhurst Belt Air Compressor. Class "F. P"

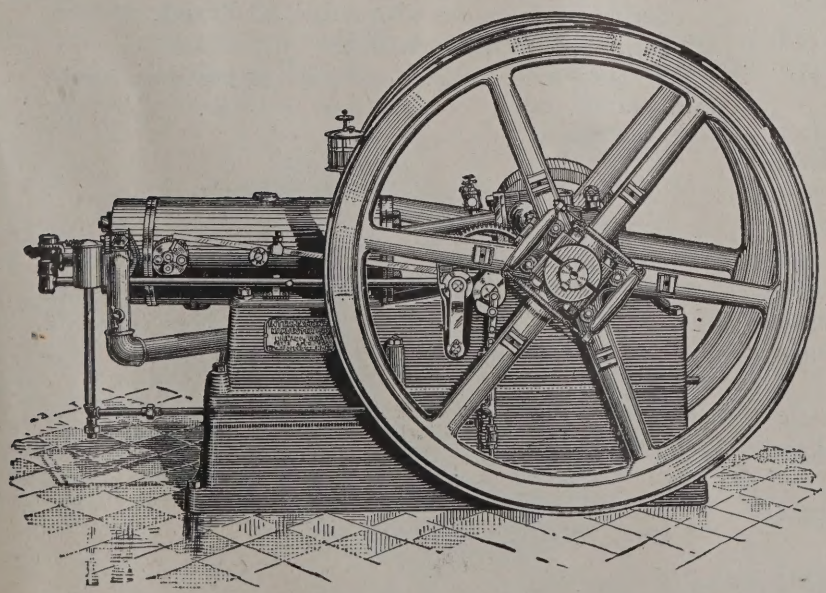
MIRACLE I. H. C. GASOLINE ENGINES.

Vertical and Horizontal Self-Contained Engines.

Safety, simplicity, durability and economy of operation are points that should receive consideration when the purchase of a gasoline engine is contemplated.

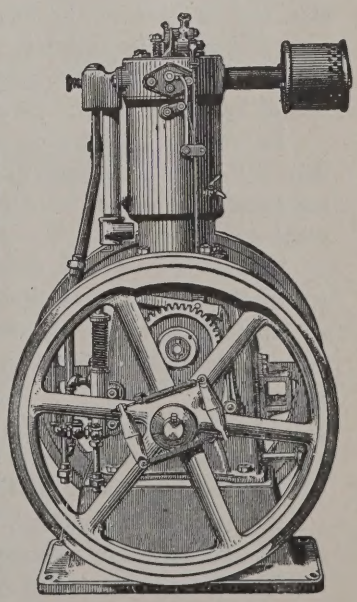
Assuming that safety is of prime importance, we find that gasoline is by no means dangerous to use for fuel, provided proper care has been exercised in designing the engine. Miracle I. H. C. engines have received every consideration in this respect. With either horizontal or vertical engines the gasoline reservoir may be buried in the ground outside of the building and below the base of the engine. This prevents overflowing of the gasoline and entirely eliminates danger from this source. Fuel is supplied through a small iron pipe. Under ordinary conditions, there is not over half a pint of gasoline in the building at one time. An overflow pipe, which has double the area of the supply pipe, returns all surplus gasoline from the vaporizer to the reservoir, so that there is no possibility of gasoline or gasoline vapor coming in contact with the outside air and forming an explosive mixture. The element of danger is farther removed from Miracle I. H. C. gasoline engines than it is from the steam engines, for the safety of the steam engine depends alone upon the careful attention of the operator. Steam boiler explosions are of daily occurrence, and are invariably the result of neglect. Continued neglect of a gasoline will cause it to stop; consequently, the source of energy, the gasoline, stops also, eliminating every danger of explosion.

In both their construction and operation, Miracle I. H. C. engines are exceedingly simple. A comparison of these engines with those of other manufacture reveals this fact, even to the inexperienced. The simpler an engine, the more readily is it understood and the more easily is it controlled.

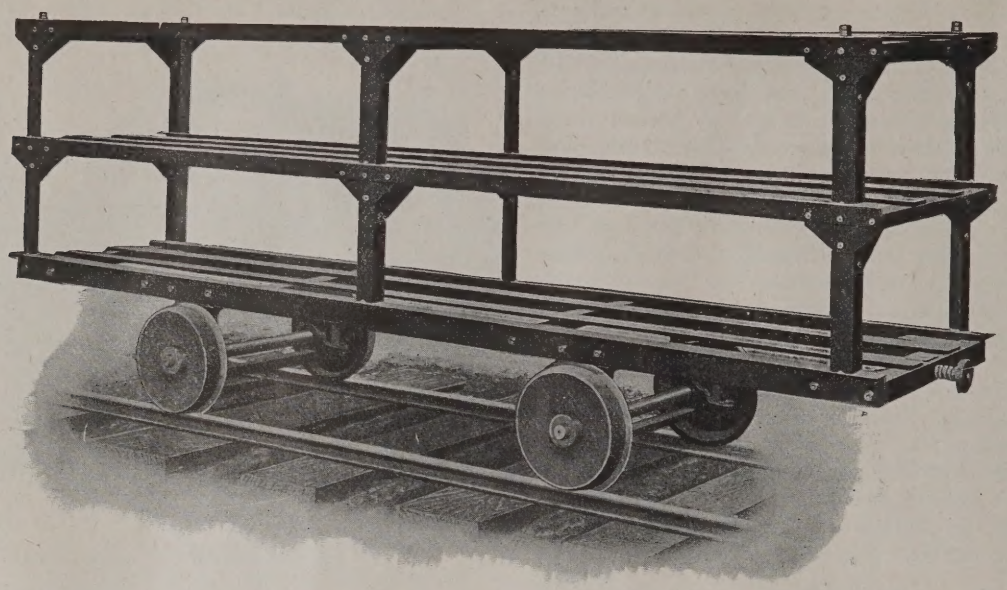


PRICE MIRACLE I. H. C. ENGINES.

2 H. P. Vert. Stay...	$125.00
3 H. P. Vert. Stay...	175.00
5 H. P. Vert. Stay...	275.00
6 H. P. Hori. Stay...	306.00
8 H. P. Hori. Stay...	350.00
10 H. P. Hori. Stay...	450.00
12 H. P. Hori. Stay...	500.00
6 H. P. Hori. Portable Mounted	425.00
8 H. P. Hori. Port...	475.00
10 H. P. Hori. Port...	575.00
12 H. P. Hori. Port...	625.00
15 H. P. Hori. Port...	750.00



MIRACLE SPECIAL CONCRETE BLOCK CAR



Shipping weight—3-Deck Car, without center slats, 400 lbs.

To properly attain the highest point of perfection in the manufacture of Concrete Blocks it is necessary, first, not only to use good material and make a Block with care, but employ up-to-date processes in labor and quality-saving machinery. Consistent with the MIRACLE idea of being first and best in everything, we have had designed a special triple deck Block Car, which will carry 18 12-inch or 24 9-inch MIRACLE Blocks at one load, thus saving much expense in labor, with great reduction in number of defaced and broken blocks.

This illustration is an excellent reproduction of this new Block Car, constructed throughout of metal, properly proportioned and designed to meet the requirements of heavy service. We call especial attention to the arrangment of the decks, both the intermediate and upper decks being made with depending legs and resting one upon the other. They are readily removable, and by this means loading can be more quickly and easily accomplished. The decks are well braced in all directions, and are held in position by the small projections fitted into the corners of the angles forming the deck standards.

In ordinary cases we do not furnish the two center deck slats, as they are unnecessary except where blocks of short length are manufactured, so if center plates are desired so state in your order.

The method of using spring journal boxes, as shown, will appeal at once to the practical block manufacturer. It will be noticed that the bearing consists of a resilient coil spring fitted into a pedestal in connection with our improved roller bearing journal box.

The use of springs prevents breakage to the Block by reason of roughness or inequalities in the track, and roller bearings greatly reduce the power required to operate the car.

All parts are made interchangeable and the bearings require no attention outside of an occasional oiling.

This car is also provided with a spring bumper at each end as an additional protection against jar from sudden shocks.

STANDARD DIMENSIONS OF CAR.

Length over bumpers, 7 feet 7½ inches; width over all, 24½ inches; distance between standards, 38 inches; extreme height, 40 inches; track gauge, 24 inches; distance between decks, 11 inches; capacity, 24 9-inch Blocks.

The above dimensions can be varied to suit the requirements of the customers.

PRICE $19.00, F. O. B. FACTORY.

Complete with upper and intermediate deck, without center slats.

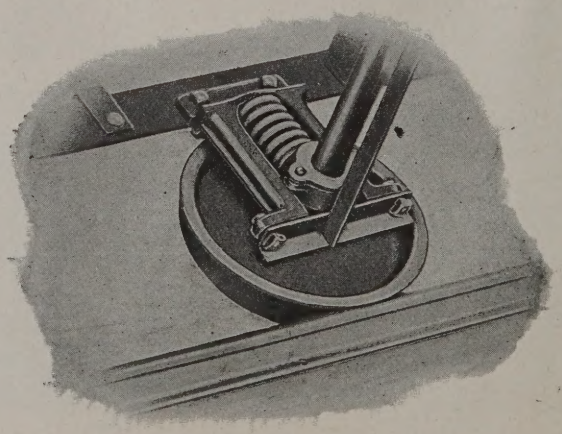
Wheels and Axles with springs, and first deck without center slats, $11.50.

Special discounts in lots of 5 or more. Single 12-lb. track per linear foot, 12 cts.; angle iron ties, 24 gauge, 2x1½x3-16, 35 cts. each.

Separate decks for cars without slats, $3.00 each.

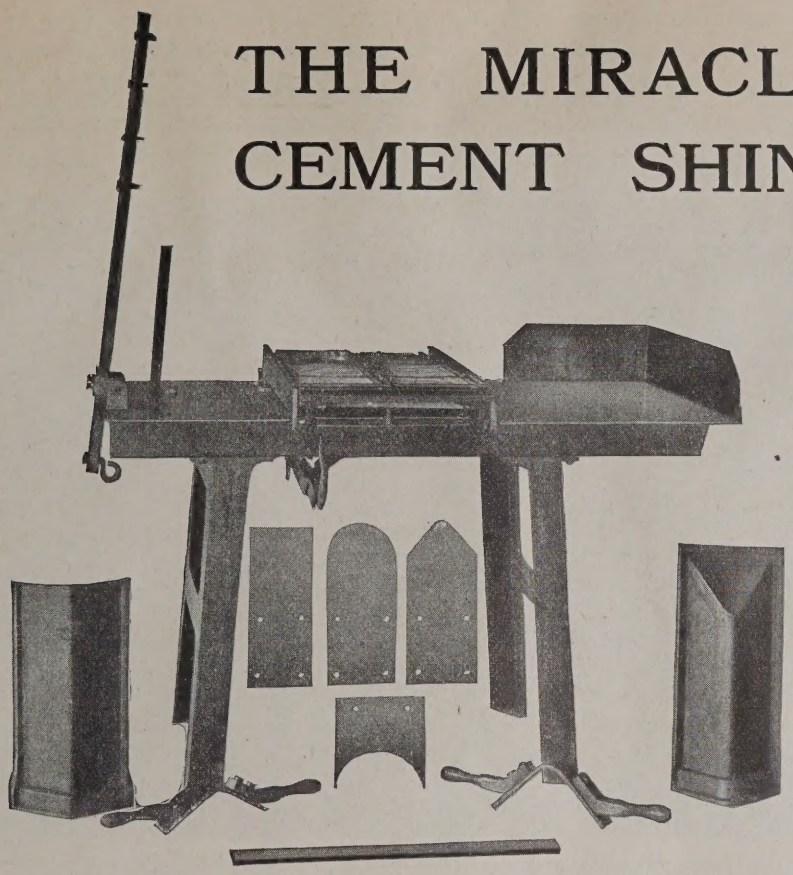
Intermediate slats, 55 cts. each.

Write for full information and prices on turntables, transfer cars, switches, etc.



Detail of Spring Journal Box.

THE MIRACLE PRACTICAL CEMENT SHINGLE MACHINE



The great volume of cement blocks used in the construction of buildings has created a demand for a shingle with which a permanent and fire-proof roof can be had.

Cement shingles made on the Miracle Practical Cement Shingle Machine are fire-proof—economical—everlasting—and can be used on any building whether frame or concrete.

The price of the common Red Cedar shingles is advancing every year and the quality is getting poorer. The life of the wood shingle of the present day is only a few years which makes a heavy expense for keeping a roof in repair. This expense is done away with in the Miracle cement shingle. When once placed on a roof they are there to stay and give satisfaction as long as the building stands and then they can be removed and used again.

The cost of the Miracle flat shingle is about $2.50 per square with cement at $2.00 per bbl., labor $2.00 per day and sand at 75c per yard. The cost of the hip and ridge shingle is about 9c per lineal foot. The cost of laying is $1.00 per square or a total of $3.50 per square for the shingle on the roof.

Red Cedar shingles require 1M to the square when laid 5 inches to the weather. The cost of the Red Cedar shingle on the average is $4.00 per M which with a cost of 50c per M for laying makes a total of $4.50 per M or square. The cement shingle owing to its permeability will easily command a price of $6.00 per square or a profit of $2.50 per square for the manufacturer.

When a brown or other color of roof is desired the same can be had by simply mixing coloring with the cement.

The proportion used in making regular shingles is 1 part of cement to 2½ parts of sand. The consistency is about the same as top coating for cement walks.

After tamping the concrete into the machine dust the top with neat cement and trowel to smooth water-proof finish.

The troweled shingle is the only one that is water-proof because it is necessary to bring the cement to the surface and close the pores to make concrete water-proof.

The shingles are fastened to the roof by means of nails driven through holes in the shingle for that purpose.

The ridges and hips are laid in cement and fastened to the roof with No. 14 copper wire.

Concrete shingles weigh about 600 lbs. to the square and 2 x 4 rafters sixteen inches apart will carry the weight of the roof.

MIRACLE PRACTICAL CEMENT SHINGLE MACHINE.

The Miracle Practical Cement Shingle Machine is without a question one of the most practical shingle machines ever invented. It has been on the market long enough to prove its worth, and wherever it is in operation its product is taking the lead over other roofing material. Wooden pallets are used which are very simple in construction, and inexpensive. The capacity is very large when compared to other machines, and any inexperienced man by following our instructions can operate it successfully.

EQUIPMENT FOR THE MIRACLE PRACTICAL CEMENT SHINGLE MACHINE.

10 Forms for making hips,
10 Forms for making ridges,
1 Union for hip and ridge,
1 Hip trowel,
1 Ridge trowel,
1 Regular trowel,
2 Round end forms,
2 Diamond end forms,
2 Square end forms,
1 Sample pallet.

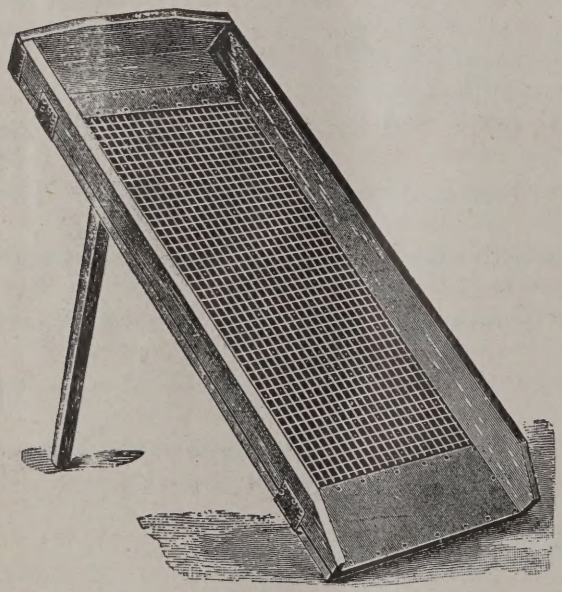
Price Complete, $100.00 F. O. B. Factory.

MIRACLE TOOLS AND APPLIANCES

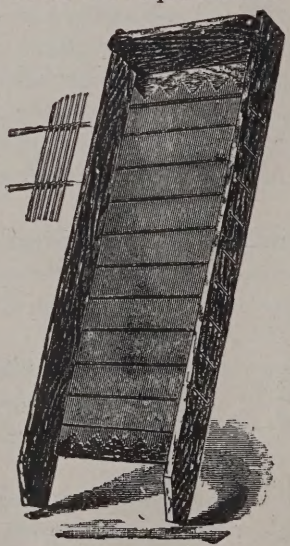
THE STANDARD KIND. THE VERY BEST.

A MIRACLE CREW USING MIRACLE TOOLS.

We can absolutely recommend the tools in the following pages as being the most practical and economical. They are made by us after years of experience, and they will fill the requirements of any cement user.

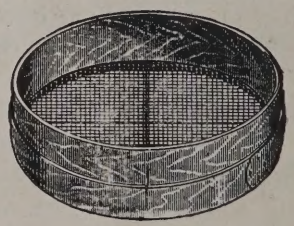


SAND SCREEN.



LACED SAND SCREENS.

Frame, 66x24 inches. Wire surface, 40x18 inches. Nos. 3, 4, 5 and 6 mesh.
Price, $2.50.



SAND RIDDLES.

Diameter, 18 inches.
Iron wire, Nos. 3, 4, 5, 6, 7, 8, 9, 10, 12 and 14 mesh.
Price.....35c each.
Price. 14 mesh, 40c each.

Sand Screens and Riddles.

We can furnish you with any size or shape screen in any mesh you desire. These screens are all put up in first-class shape.

We present prices of a screen built upon honor, and while the first cost may be more, we have found they are the cheapest in the long run. These screens are all made of No. 12 wire rods and strengthened on all four sides with No. 6 wire rods, and are similar in construction to ordinary coal screens of coarse mesh. They are all hand made and practically indestructible.

No. 1 Screen.—Made of No. 12 wire, 3/8 inch sq. mesh, 30x60 inches.....25c sq. foot

No. 2 Screen.—Made of No. 12 wire, 3/4 inch sq. mesh, 30x60 inches.....15c sq. foot

No. 3 Screen.—Made of No. 12 wire, 1 inch sq. mesh, 30x60 inches.....12c sq. foot

No. 4 Screen.—Made of No. 12 wire, 1½ inch sq. mesh, 30x60 inches.....10c sq. foot

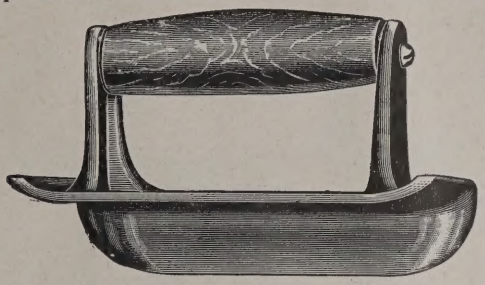
All of above without frames. Oak frame, $3.00 extra NET.

MIRACLE CEMENT SIDEWALK TOOLS

WE ARE HEADQUARTERS FOR EVERY KIND OF TOOL THAT IS MADE FOR CEMENT CONSTRUCTION. EVERY TOOL HAS STOOD THE TEST OF MIRACLE EXPERIENCE.

In selecting a line of cement workers' tools to recommend to our trade, it has not been a question of the cheapest but the best. The average finisher has no time to clean or care for a jointer or edger every time he uses it. With a steel tool, if it is not cleaned promptly, rust is bound to appear, which makes ragged and imperfect work.

The MIRACLE Ideal Tools are very carefully and conscientiously made, being practical in every respect. They are made of a composition of bell metal and bronze, which makes it impossible for them to rust and they are always ready for use.



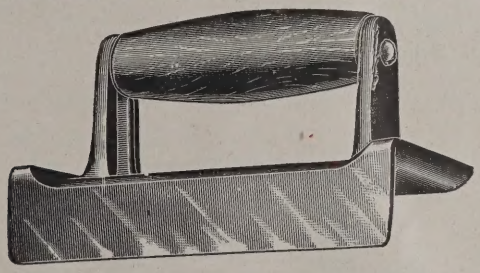
¾-INCH EDGER.

This tool for finishing the edges is 3 inches wide by 6 inches long, both ends rounded. It has a 1-inch turned edge with a radius of ¾-inch. Weight, 1¼ pounds.

No. X4, Iron, nickel plated, each.....$ .48
No. X04, Solid Bronze, each..... 1.00

¾-INCH EDGER, 10 INCHES LONG.

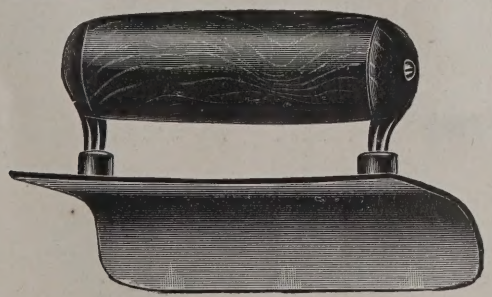
No. XA4, Iron, nickel plated, each.....$1.07
No. XA04, Solid Bronze, each..... 1.75



SQUARE EDGER.

This tool is used for finishing the edge of steps, etc., making the edge square. It is 6 inches long by 3 inches wide with cutting edge of 1½ inches. Weight, 1¼ pounds.

No. X17, Iron, nickel plated, each.....$ .60
No. X017, Solid Bronze, each..... 1.00



CURBING EDGER.

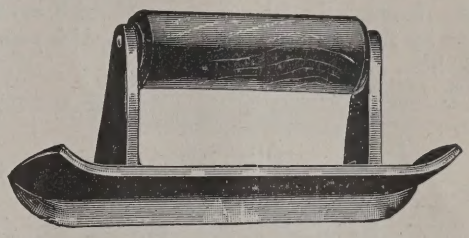
This tool for finishing curbing is 3½ inches wide by 6½ inches long with a slightly oval surface. It has a 2-inch turned edge with a radius of 1½ inches. Weight, 2½ pounds.

No. X100, Iron, nickel plated, each.....$ .85
No. X0100, Solid Bronze, each..... 1.27

CURBING EDGER, 10 INCHES LONG.

A X100, Iron, nickel plated, each.....$1.20
A X0100, Solid Bronze, each..... 1.98

THE LOWEST PRICES EVER MADE.



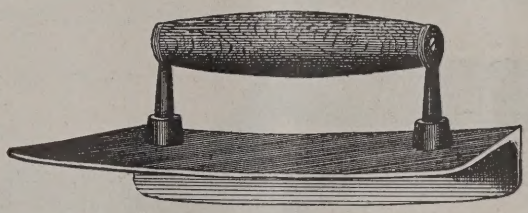
⅜-INCH EDGER.

This tool is used for finishing the edges. It is 2¾ inches wide by 6 inches long with both edges rounded, has a ¾-inch turned edge with a radius of ⅜ inch. Weight, 1¼ pounds.

No. X2, Iron, nickel plated, each.....$ .42
No. X02, Solid Bronze, each..... .89

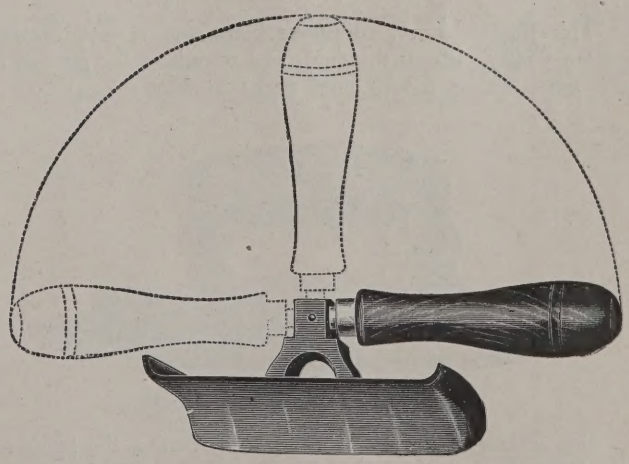
⅜-INCH EDGER, 10 INCHES LONG.

No. XA2, Iron, nickel plated, each.....$1.07
No. XA02, Solid Bronze, each..... 1.77



No. 18, Edger, $1.75.

For finishing the edges of circular walks, 2½x7½ inches.

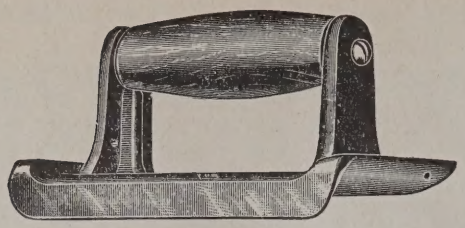


REVERSIBLE HANDLE EDGER.

This tool is very handy, our reversible handle making it either right or left handed. It is 2½ inches wide by 5½ inches long, flat surface with both ends rounded. Turned edge with ⅜-inch radius. Weight, 1½ pounds.

No. X10, Bronze only, each.....$ .89

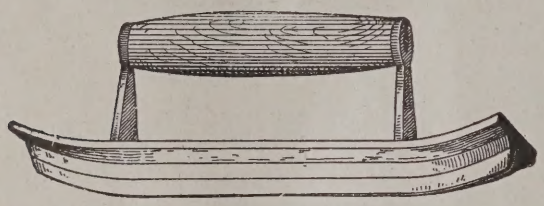
BEVEL EDGER.



This tool is used for finishing the edge of steps, carriage blocks, etc., finishing the edge in shape of small bevel. It is 6 inches long by 2¾ inches wide. Weight, 1¼ pounds.

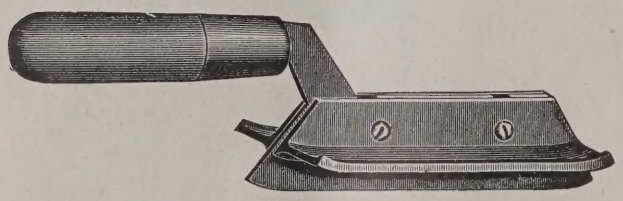
No. x18, Iron, nickel plated, each.....$ .48
No. x018, Solid Bronze, each..... 1.00

JOINTERS.



No. 17, Jointer, $1.40.

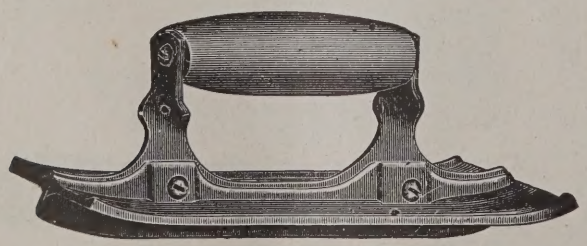
This Jointer cuts deep in the pavement, is easily used, and trowels the bevel of the points strong and firm. The joints when finished are very wide and deep, allowing gravel, broken stone and pebbles that may accumulate in the joint to lodge below the surface of the pavement.



Used for Jointing Walks or Driveways.

No. 11, Jointer, $1.40.

This Jointer has an adjustable blade and is used for yard or lawn walks. It cuts the finish and completes the joint at the same time, making a very small and neat joint.



No. 12, Jointer, $2.10.

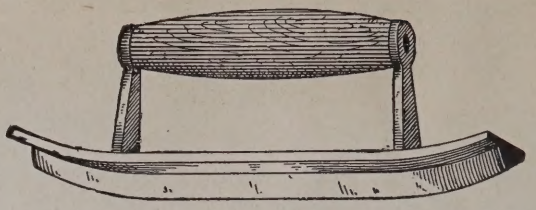
For making a deep and clean joint, cutting the finish and completing the joint. Adjustable steel blade.

No. 13, Jointer, $2.50.

Adjustable steel blade, one inch deep.

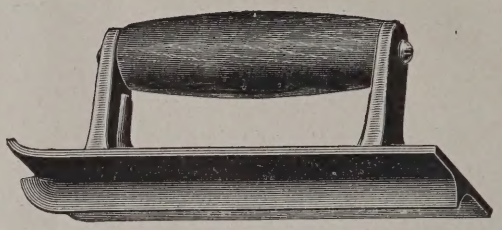
No. 14, Jointer, $3.00.

Adjustable steel blade, one and one-half inches deep.



No. 20, Jointer, $1.40.

Trowels the Joints Bevel.

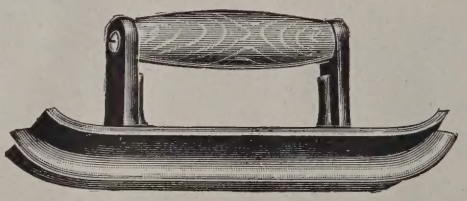


No. x5, Straight End Jointer.

This tool is very desirable where joint is to be made in a sharp corner against framework, as one end is straight and one end is rounded. It is 3 inches wide by 6 inches long.

No. x5, Iron, nickel plated, each.....$ .54
No. x05, Solid Bronze, each..... 1.00

Weight, 1½ lbs.

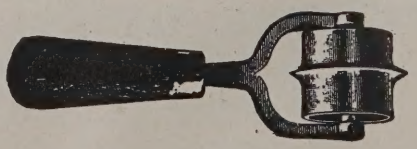


No. x1, Jointer.

This Jointer is 2¾ inches wide by 6 inches long with both ends rounded, cuts ½ inch deep.

Weight, 1¼ lbs.

No. x1, Iron, nickel plated, each.....$ .42
No. x01, Solid Bronze, each..... .89



Rolling Jointer.

Solid Bronze.....$1.50 each

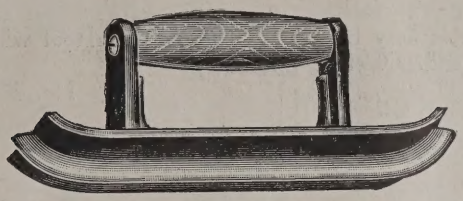
Special tool used by masons and sidewalk men.
It is 2 inches wide by 2 inches in diameter.
Packed ½ dozen in carton. Weight, per dozen, 14 lbs.

Order by name.

DRIVEWAY GROOVERS.

No. 16.—$1.40.

Used for making grooves across driveway.



Driveway Groover.

For making grooves in driveways, etc. It is 3 inches wide by 9 inches long with both ends rounded.

Tool Cutting ½-inch Deep.

No. x3, Iron, nickel plated, each..... $ .85
No. x03, Solid Bronze, each..... 1.26
Weight, 1¾ lbs.

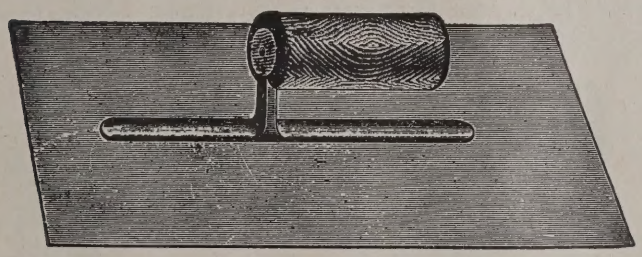
Tool Cutting ¾-inch Deep.

No. x19, Iron, nickel plated, each..... .85
No. x019, Solid Bronze, each..... 1.26
Weight, 2 lbs.

Tool Making Wider Groove Than No. x3.

No. x7, Iron, nickel plated, each..... .85
No. x07, Solid Bronze, each..... 1.26
Weight, 2 lbs.

TROWELS.



Plastering Trowels.—Cincinnati pattern, extra quality cast steel, improved basswood handle, fancy etched blade.

Inches	10½	11	11½
Price	$1.15	$1.20	$1.40

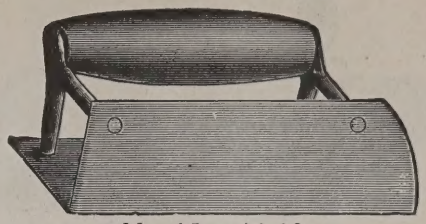
Woodrough and McParlan Plastering Trowels.—Our special No. E, cast steel, etched blade, walnut handle, extra heavy.

Inches	10½	11	11½
Price	$1.25	$1.35	$1.50

Oak Leaf Pointing Trowels.—Square heel pattern, solid shank, cast steel.

Inches	4½	5
Price	$0.25	$0.30

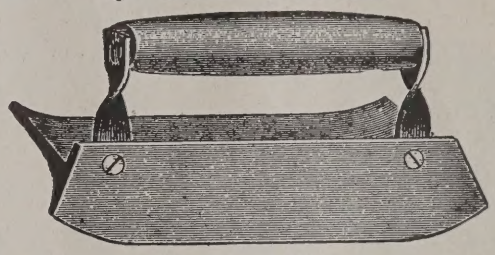
ANGLE TROWEL.



No. 15.—$1.10.

For finishing internal angles of steps, etc. An article indispensable to a cement worker.

QUARTER ROUNDS.



No. 6.—$1.40.

For rounding and finishing corners and edges of cement walks and curbs. Radius, one inch.

No. 7—$1.40.

Same design as No. 6. Radius, one-half inch.

No. 8.—$1.75.

Same design as No. 6. Radius, two inches.

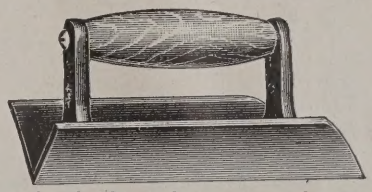
No. 9—$1.40.

Same design as No. 6. Radius, three-eighths of an inch. Used where a small round is required.

No. 10.—$1.40.

Same design as No. 6. Radius, three-quarters of an inch.

CORNER TOOL.

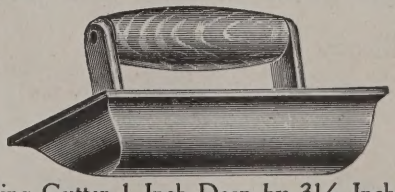


This tool is for finishing the corners of steps, etc. As the cut shows, has one end straight and one end curving back, as shown, allowing the user to work in corner against framework. It is 6 inches long with sides 1½ inches high.

Weight, 1 lb.

No. x6, Iron, nickel plated, each..... $ .48
No. x06, Solid Bronze, each..... .90

GUTTER TOOL.



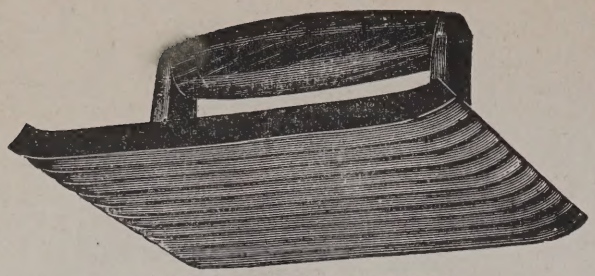
For Making Gutter 1 Inch Deep by 3½ Inches Wide.
Weight, 1½ lbs.

No. x8, Iron, nickel plated, each..... $ .85
No. x08, Bronze, polished, each..... 1.26

For Gutter 1½ Inches Deep by 5 Inches Wide.

No. x9, Iron, nickel plated, each..... $1.07
No. x09, Solid Bronze, each..... 1.77
Weight, 2 lbs.

Miracle Cement Sidewalk Tools—Continued.



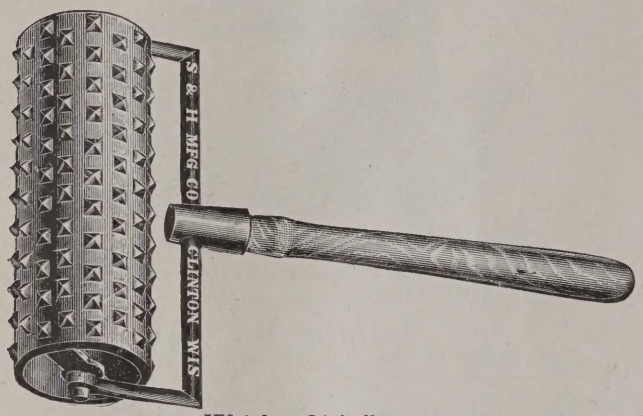
CORRUGATING TOOLS.

No. 40, Solid Bronze.....$2.00 each

5x7½ inches.

Used for corrugating sidewalks and driveways.

Weight, per dozen, 25 lbs.

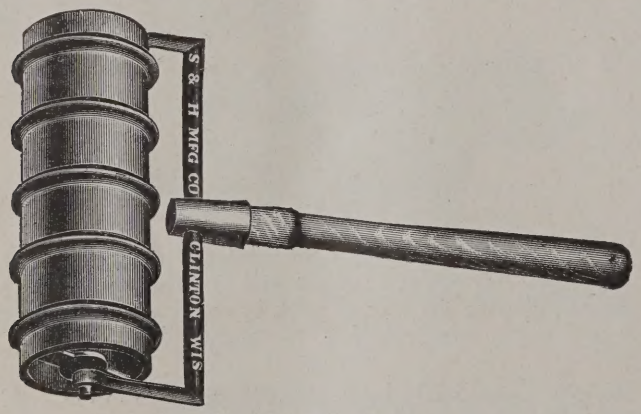


Weight, 9½ lbs.

INDENTATION ROLLER.

For imprinting surfaces of walks, etc., making a fine finish and preventing them from being slippery.

No. x015, Bronze, 10 inches long, each.....$8.40

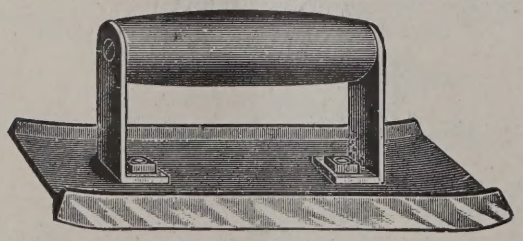


Weight, 9½ lbs.

DRIVEWAY ROLLER.

For finishing driveways. Makes ¼-inch grooves 2 inches apart.

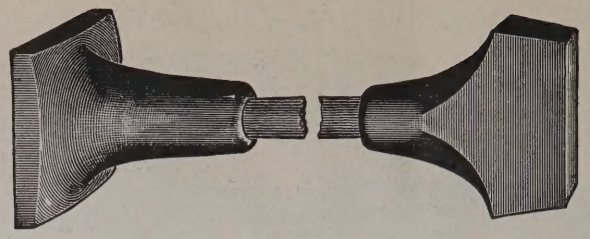
No. x016, Bronze, 10 inches long, each.....$7.00



BEVEL TOOLS.

No. 19.—$1.40.

Used to make small bevels on corners of steps or curbs.



TAMPERS.

No. 2. No. 1.

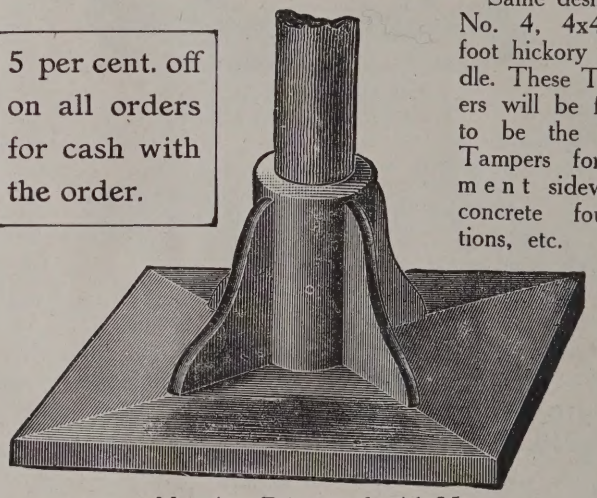
Each, $1.50.

For steps, curbs, or where a small Tamper is required. Four-foot hickory handle. A combination tool with Tamper on either end. Weight, 8½ pounds.

No. 3.—$1.00.

Same design as No. 4, 4x4, 4-foot hickory handle. These Tampers will be found to be the Ideal Tampers for cement sidewalks, concrete foundations, etc.

5 per cent. off on all orders for cash with the order.



No. 4.—Price, each, $1.25.

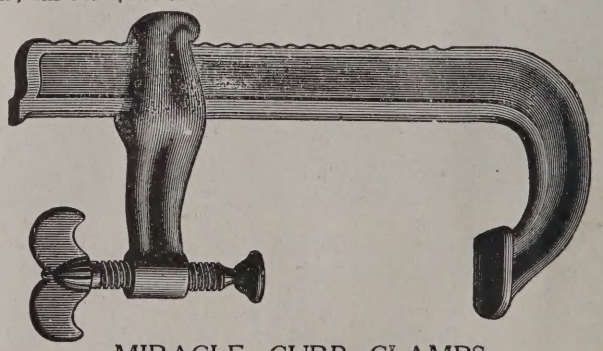
6x6 inches. Four-foot hickory handle.

No. 5.—Price, each, $1.50.

Design same as No. 4. 8x8 inches—used for curbs, coping, etc., four-foot handle.

No. 6, Same as No. 5.—10x10, each, $1.75.

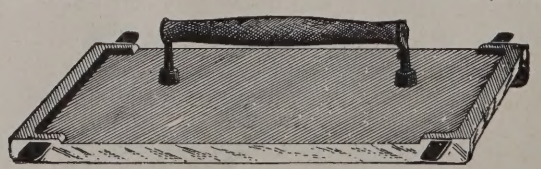
Any of the above sizes can be furnished with short iron handle for sidewalk block machine, if preferred. Price, $1.00 each; six for $5.00.



MIRACLE CURB CLAMPS.

Miracle curb clamps are of the simplest construction and operation. Will last forever.

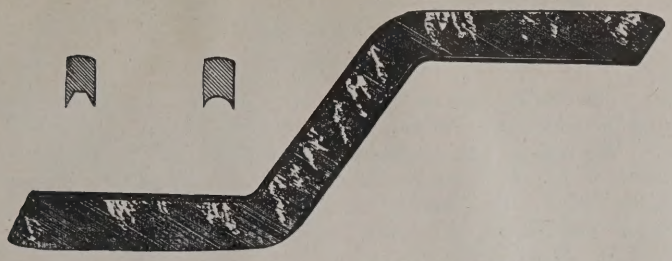
Price, 12-inch size.....$1.10 each



CURB TOOLS. No. 21.—$3.50.

For finishing top of street curb. The finest tool in use. Bronze; dimensions, 4x11½ inches.

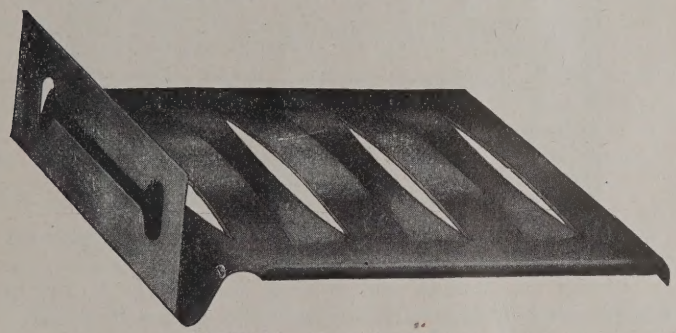
The Standard Kind.



MIRACLE TUCK POINTING TOOL.

It has been the experience of a large number of our customers that it is difficult to get a good tuck-pointing tool; in fact, at some places, it is impossible to get one at all. We show here a cut of the MIRACLE all-steel pointer, which is double-edged and the only practical tool for this work on the market. It is made entirely out of steel, thus insuring a tool that will last an indefinite period, and still retain its original edge. Can be furnished in either design of face shown in illustration, and in any gauge from 1/8 to 5/8-inch.

Price, each.....$1.00

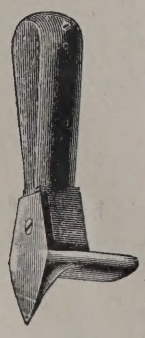


METAL WALL PLUG.

The question is often asked, "How do you nail to your casing base, etc.?" This question is easily answered by this illustration.

We have made arrangements with the manufacturers and can furnish promptly any number of these you may require.

Price.....$1.75 per 100 F. O. B. Minneapolis
" .....$15.00 per 1000 F. O. B. Factory



RADIUS TOOLS.

This tool is used for laying out and finishing curves and circles where longer edgers cannot be used. Weight ½ lb.

TOOL WITH 3/8-INCH RADIUS.

No. x23, Iron, nickel plated, each....$ .42
No. x023, Solid Bronze, each..... .70

TOOL WITH 3/4-INCH RADIUS.

No. x11, Iron, nickel plated, each..... .42
No. x011, Solid Bronze, each..... .70

RAISED POINTER.
(Beading Trowel.)

This tool is used for making raised pointing or beading, and is so constructed that the bead will not cling to the tool.

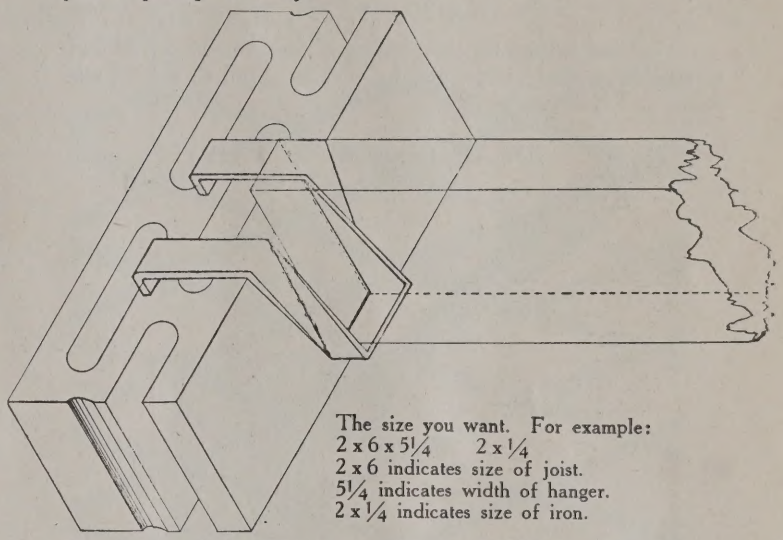
Made in three sizes, 1/4-inch, 3/8-inch and 1/2-inch.
Weight, 1/4 lb.

No. x12, Iron, nickel plated, each.....$ .40
No. x012, Solid Bronze, each..... .70

The Very Best.

JOIST HANGERS.

Some architects and builders prefer hangers rather than to cut into the blocks for joist, as hangers distribute the weight throughout the wall. We have made arrangements with one of the largest concerns manufacturing joist hangers to make for us a special hanger for MIRACLE Blocks, and we are able to furnish them for both 9-inch and 12-inch blocks, and can assure you of prompt delivery.



The size you want. For example:
2 x 6 x 5¼ 2 x ¼
2 x 6 indicates size of joist.
5¼ indicates width of hanger.
2 x ¼ indicates size of iron.

Sizes for 9-in. blocks.		Price.	Sizes for 9-in. blocks.		Price.
2 x 6 x 5½	2 x ¼..	$0.55	2 x 6 x 5½	2½ x ¼.	$0.60
2 x 8 x 5½	2 x ¼..	.60	2 x 8 x 5½	2½ x ¼.	.64
2 x 10 x 5½	2 x ¼..	.64	2 x 10 x 5½	2½ x ¼.	.69
2 x 12 x 5½	2 x ¼..	.69	2 x 12 x 5½	2½ x ¼.	.74
2 x 14 x 5½	2 x ¼..	.74	2 x 14 x 5½	2½ x ¼.	.80

Sizes for 12-in. blocks.		Price.	Sizes for 12-in. blocks.		Price.
2 x 6 x 7¼	2 x ¼..	$0.60	2 x 6 x 7¼	2½ x ¼.	$0.64
2 x 8 x 7¼	2 x ¼..	.64	2 x 8 x 7¼	2½ x ¼.	.69
2 x 10 x 7¼	2 x ¼..	.69	2 x 10 x 7¼	2½ x ¼.	.74
2 x 12 x 7¼	2 x ¼..	.74	2 x 12 x 7¼	2½ x ¼.	.80
2 x 14 x 7¼	2 x ¼..	.80	2 x 14 x 7¼	2½ x ¼.	.84

Subject to Trade Discount.

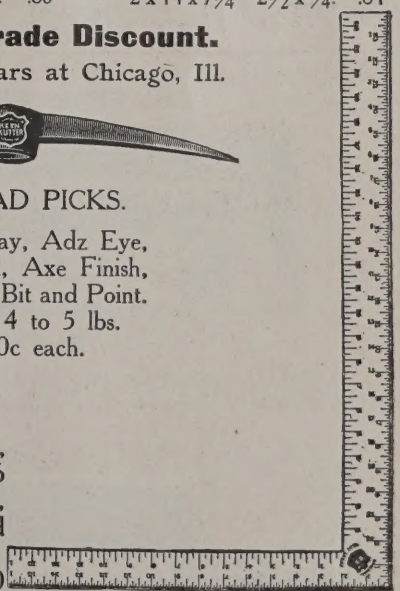
Prices F. O. B. Cars at Chicago, Ill.

RAILROAD PICKS.

Chip-Away, Adz Eye,
Painted Red, Axe Finish,
Special Steel Bit and Point.
Weight, 4 to 5 lbs.
Price, 50c each.

STEEL SQUARES.

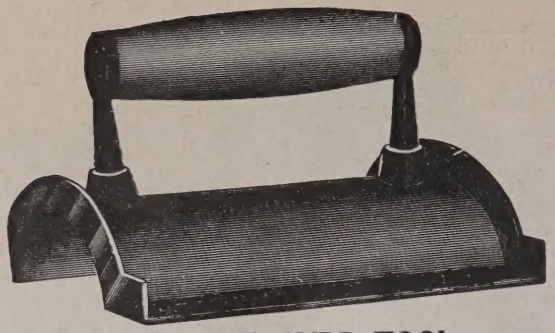
No. 1 Square, 2-in. wide, can be furnished with 16 or 18-in. Tongue; 1-16, 1-12, 1/8, 1/4-in. Board and Brace Measure.
Each $1.00



No. 7 Square, 2-in. wide, with 16-in. Tongue, 1/8, 1/4-in. Board and Brace Measure.
Each 70c

5 per cent. OFF on all Tools for CASH with order.

Miracle Cement Sidewalk Tools—Continued.

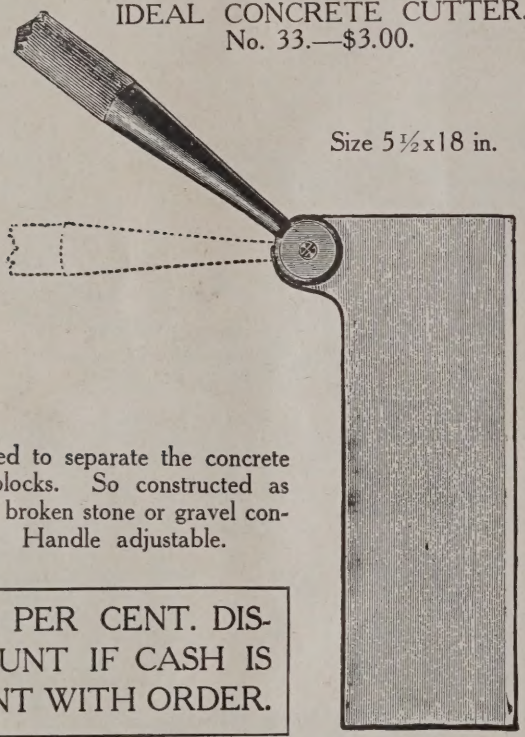


RESIDENCE CURB TOOL.
No. 25.—$2.25.

This tool is used for the purpose of finishing the top of curb on side of residence steps, and for making a roll on side of residence and lawn walks.

IDEAL CONCRETE CUTTER.
No. 33.—$3.00.

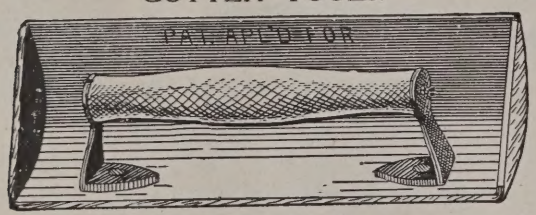
Size 5½x18 in.



Used to separate the concrete into blocks. So constructed as to cut broken stone or gravel concrete. Handle adjustable.

5 PER CENT. DISCOUNT IF CASH IS SENT WITH ORDER.

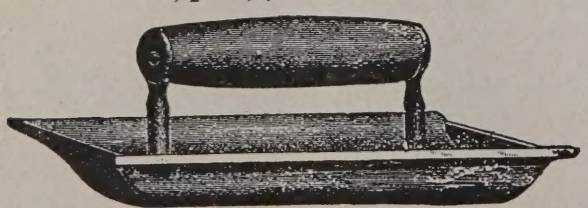
GUTTER TOOLS.



No. 30.—$3.75.

Used for making the internal angle where curb and gutter come together; 4½x11¾, 2-inch radius.

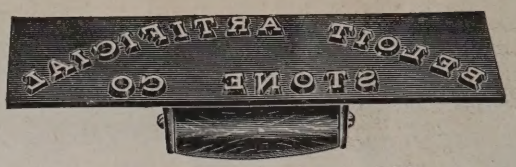
No. 31.—3½x11¾, 1-inch radius.—$3.00.



No. 32.—$2.00.

Used for making and finishing gutters in walks and floors.

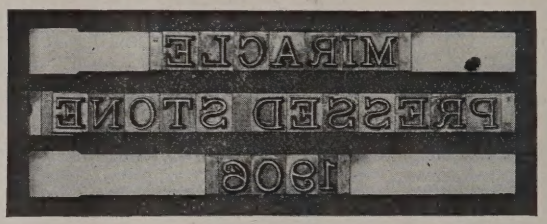
NAME PLATES.

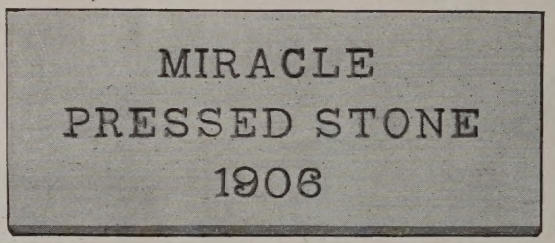


The above name plates are made of solid bronze of any size and including any lettering that may be desired.

We usually sell, however, a plate about 3½ inches by 10 inches in size, having a line border and containing letters ¾-inch high. Such a tool would cost about $3.25 to $3.75, according to the amount of lettering called for.

ADJUSTABLE NAME PLATES.





This name stamp allows one to set up any name and address, any advertisement or any date.

Frames are made to hold as many lines of type as may be desired, are provided with lock blocks to hold type in place, and fitted with proper hand holders for operating.

Typo and figures are cast of bronze, and are carefully finished so as to press or tamp into the cement walk and easily withdraw, leaving a neat and straight impression.

Frames are made of steel, heavily coated to prevent rusting.

We are prepared to furnish these in single, double and triple frames, and in 12, 15, 18 and 20-inch lengths.

We offer these outfits as follows: 15-inch double frame, lock blocks, full alphabet, A to Z, and figures 0 to 9, one period, one dash, one space blank, complete $6.95, express prepaid. Single Frames, 7 cents per inch, inside measure.

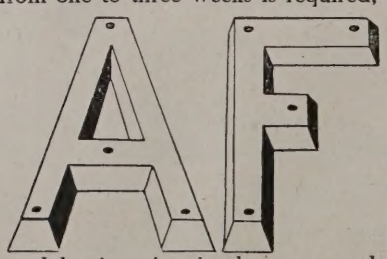
Double Frames, 12 cents per inch.

Triple Frames, 17 cents per inch.

Letters and Figures, ¾ inch in size, 12½ cents.

Letters and Figures, 1 inch in size, 16 cents.

Letters and Figures are carried in stock and can be shipped within 24 hours after receipt of order. On other name plates, from one to three weeks is required, for they are made to order.

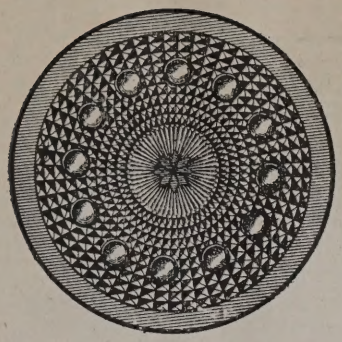


INDENTATION LETTERS.

Cut herewith shows two of our indentation letters. They are cast in 1½-inch, 3-inch or 6-inch letters. They can be used by inserting in the cement along a straight edge or may be fastened to a wooden strip and thus make a very practical name stamp.

Size	1 inch.	1½ inch.	3 inch.	6 inch.
Full Alphabet	$2.25	$2.50	$4.75	$12.00
Single letters	.10	.12	.20	.50

MIRACLE EQUIPMENT—Continued.

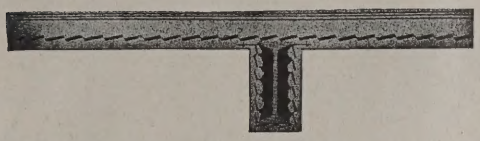


RINGS & COVERS FOR COAL HOLES

18-inch	rings	cover,	no	light	.....	$4.00
20	"	"	"	"	.....	4.75
24	"	"	"	"	.....	6.50
18	"	"	9	"	.....	4.60
20	"	"	12	"	.....	5.50
20	"	"	36	"	.....	6.50
24	"	"	12	"	.....	8.00
24	"	"	60	"	.....	10.50

GALVANIZED IRON PAILS.
Extra Heavy.
12-quart, each ..... $ .40
14-quart, each ..... .45

MIRACLE EXPANDED METAL.



EXPANDED METAL IN USE.

As a material, expanded metal is nothing more nor less than a plain sheet of steel, which, by an automatic machine, is opened into meshes of any desired size or section of strand. It has served many purposes since its first appearance, but to-day stands out as a most important item in reinforced concrete construction. It is most valuable to the average cement user as reinforcement for cement sidewalk construction, cement flooring and roofing, concrete beams, cement sewer tile, etc.

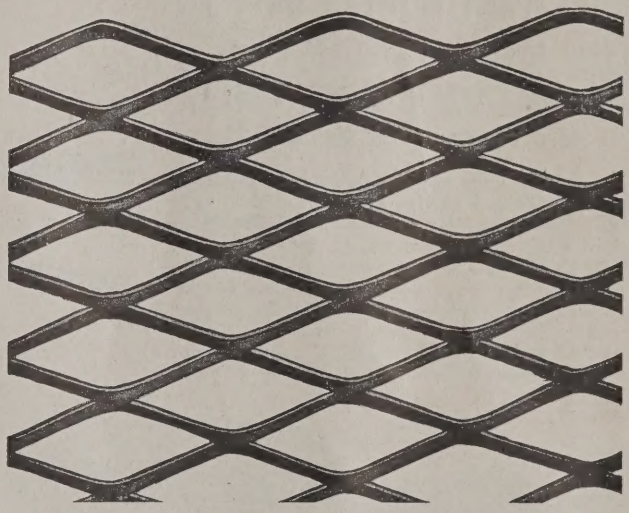
It is also used most satisfactorily and economically as a substitute for lath.

The accompanying illustration shows a popular lathing mesh (C 18 Standard 27 gauge) made in lengths of 8 feet and 18 inches wide, which size constitutes the specifications of all leading architects.

Price per square yard (C 18 Standard 27 gauge) $0.28

For other uses for expanded metal, it is produced in sheets of 8-foot lengths and in any width that is wanted up to a certain point.

Prices and specifications as follows, F. O. B. Factory:



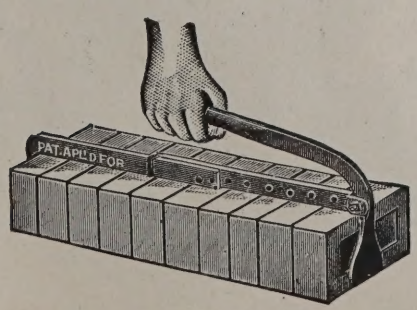
Mesh.	Gauge	Lbs. to Sq. Ft.	Length	Any Width up to	Price per sq. ft.
½ in.	18	.62	8 ft.	7 ft.	$ .04½
¾ in.	13	.81	8 ft.	5 ft.	.05½
1¾ in.	12	.64	8 ft.	7 ft.	.04¾
2¾ in.	10	½	8 ft.	12 ft.	.03¾
2¾ in.	10 Db. Str.		8 ft.	6 ft.	.05½
3 in.	10	½	8 ft.	12 ft.	.05
3 in.	10 Db. Str.	1	8 ft.	6 ft.	.05½

Prices subject to change without notice. 5 per cent. off for cash with order for 25 yards or more. Ask for special prices on large quantities.

MIRACLE BRICK TONGS.

TESTED BY MIRACLE EXPERIENCE.

Pronounced the Most Practical for Handling Brick.



It Has Been Demonstrated That

MONEY IS EASILY SAVED

Because it saves 25 per cent. of time consumed in unloading a car of brick.

Because with it there can be no mistakes in count. It can be adjusted to carry any number of brick from six to twelve.

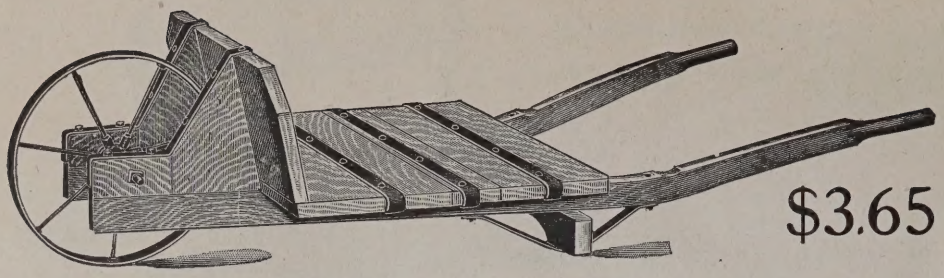
Because with it you avoid chipping the brick.

Because pavers can handle the brick directly off the curb, thus saving time in wheeling.

Because it costs but little, and will pay for itself in three days.

Weight, 5½ lbs. Price $2.35

MIRACLE CONCRETE WHEELBARROWS.



$3.65

Bent Handle Concrete Block Barrow.

This Barrow is especially designed for the handling of Concrete Blocks. It is made from Selected Rock Elm; has Extra Heavy Malleable Wheel, and is Thoroughly Ironed. We call your attention to the iron strips running crosswise on bed, which add Great Strength, and do not catch blocks as they are slid on and off.

Price, $3.65 each; one-half dozen lots, $3.40 each; F. O. B. Minneapolis.

Shipping weight, 70 pounds.

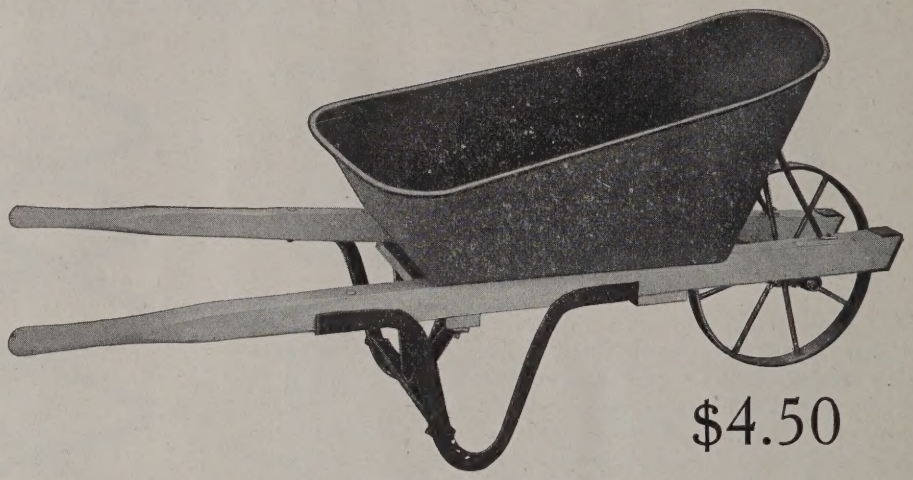
STEEL TRAY MORTAR BARROW

With Angle Steel Legs and Braces.

FOR CONTRACTORS.

Made to Dump Over the Wheel.

Just the thing for contractors, cement and concrete workers. It carries a *man's* load. Tray made of No. 15 steel, measures on top, 28x36; on bottom, 20x21. Depth at wheel, 18½ inches; at handle end, 9 inches; has heavy rod rolled in edge. Handles are heavy, of selected hardwood. Legs and braces of angle steel. Heavy steel wheel, 16 inches in diameter, running on a ⅝ steel axle through lugs bolted on under side of handle. Weight per dozen 790 lbs. $4.50 each.



$4.50

Steel Tray Mortar Barrow.

$5.60

Miracle Angle Leg Mortar Barrow.

MIRACLE ANGLE LEG MORTAR BARROW

No. 40, Miracle Tubular for mortar and wet concrete. Has all the excellent qualities of our regular Tubulars for strength, durability and efficiency and is particularly adapted for the building Contractor.

Dimensions in brief are as follows:

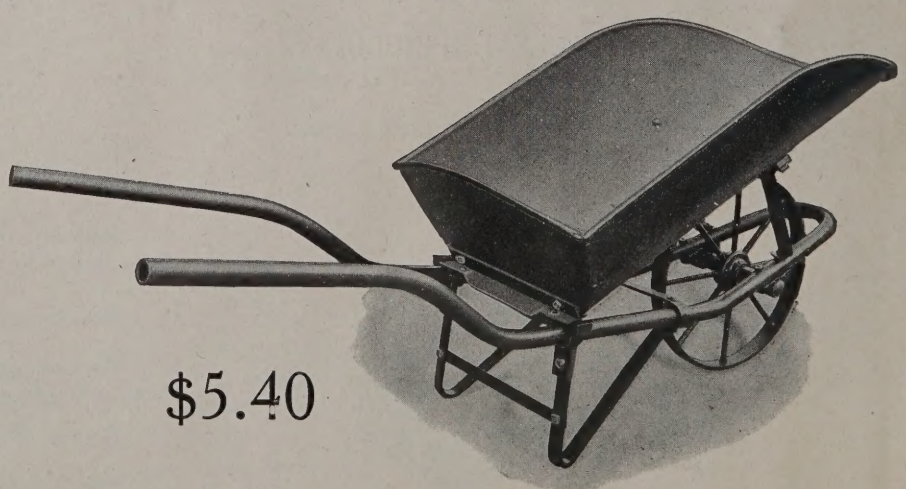
LENGTH over all	64 inch
WIDTH " "	26 inch
HEIGHT " "	29 inch
TRAY LENGTH	35 inch
" WIDTH	25 inch
" DEPTH at Dash	17 inch
" " " Handles	7½ inch
GAUGE of Steel	No. 16
WHEEL Diameter	16 inch
TIRE	1¾x⅜ inch
STEEL AXLE	⅝ inch
CAPACITY in Cubic Feet	4
WEIGHT in lbs.	82
PRICE	Each $5.60

NO. 21, MIRACLE TUBULAR

One of the best barrows made for handling Brick, Crushed Stone, Sand, Gravel, Mortar or Cement where quick action is desired. Hangs just right for handling easily.

Dimensions in brief are as follows:

LENGTH over all	65½ inch
WIDTH " "	23½ inch
HEIGHT " "	27 inch
TRAY LENGTH	38½ inch
" WIDTH	23 inch
" DEPTH	13 inch
HEIGHT at Nose	23½ inch
GAUGE of Steel	No. 16
WHEEL Diameter	16 inch
TIRE	1¾x⅜ inch
STEEL AXLE	⅝ inch
CAPACITY in Cubic feet	4
WEIGHT in lbs.	80
PRICE	$5.40

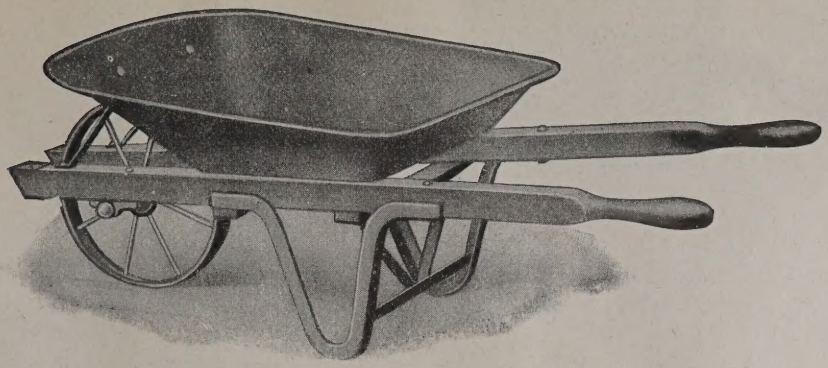


$5.40

No. 21, Miracle Tubular.

MIRACLE CONCRETE WHEELBARROWS-Continued

MIRACLE No. 10.



With Angle Steel Legs And Braces.
Price, $40.50 per dozen $20.50 per half dozen, each $3.50

MIRACLE No. 10

Good, Strong, Serviceable Barrow at an Interesting Price.

FOR CONTRACTORS.

Made to Dump Over the Wheel.

This is one of the very best steel tray, steel wheel, wood frame Barrows made. Tray measures on top 29x36, has heavy rod rolled in edge and is made of No. 16 steel. Frame is very heavy, of selected hard wood, and is thoroughly braced and bolted. The angle legs and braces speak for themselves; they cannot be improved upon. Wheel is 16 inches in diameter, 1¾x5-16 inch tire, ½ inch spokes and runs on a ⅝ inch steel axle held to handles by heavy lugs. Weight, per dozen, 750 pounds.

MIRACLE No. 3.

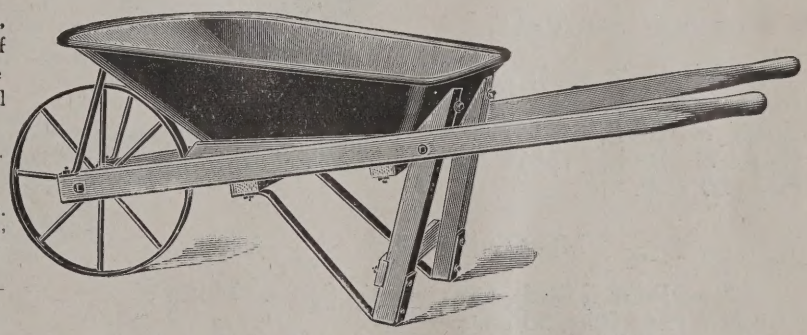
With Wire Edged Steel Tray.

All No. 3 Barrows are furnished with heavy steel wheels, 16 inches in diameter. The trays are made of one piece of sheet steel, without seam or rivet, pressed into proper shape Edges are flanged and turned over a 5-16-inch steel rod. All parts of the barrows are given a heavy coat of paint.

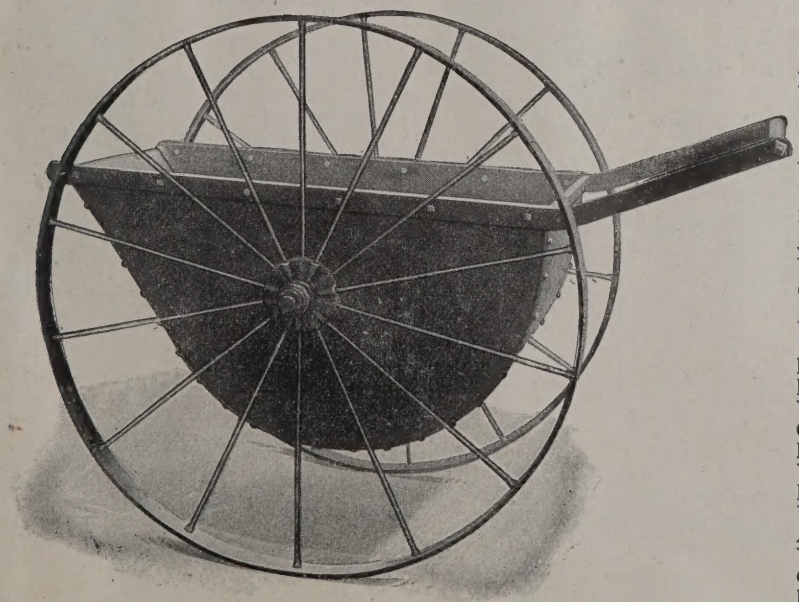
No.	One dozen Packed for Export Measure	Diameter of Wheel Inches	Gauge of Steel in Tray	Size at Top.	Wgt. each, lbs.
C 3	24 cu. ft.	16	16	32 inches long. 29 in. wide	55
C 4	24 cu. ft.	16	14		
C 5	26 cu. ft.	16	16	36 inches long. 29 in. wide	60

MIRACLE No. 3.

An Extra Good Barrow for the Money. Cheap, but not Cheaply Made.



With Solid Pressed Steel Trays, Wire Edge,
Price, $32.00 per dozen, $16.50 per half dozen, $2.85 each



Concrete Cart

No. 1. CONCRETE CART

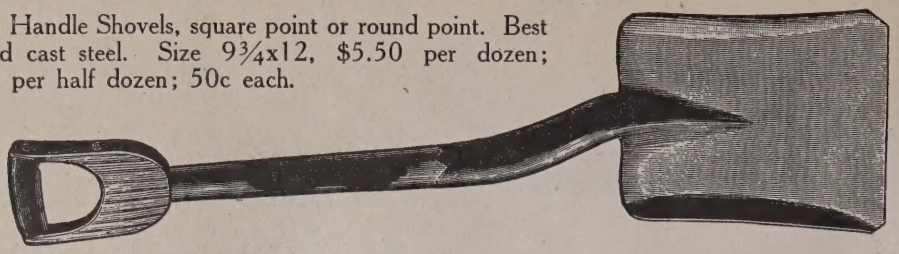
For Contractors, Cement and Concrete Workers

The bowl is so hung that it can be turned bottom up, making it especially convenient for laying the concrete base for sidewalks, reservoir bottoms and floors for reinforced concrete buildings. A brief description of this rig is as follows:

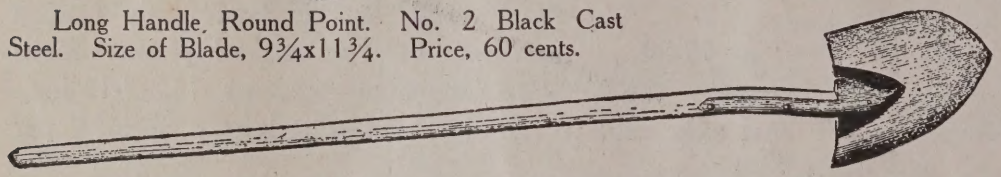
LENGTH of Body	39½ inch
DEPTH " "	20 inch
WIDTH " "	21 inch
GAUGE of Steel	No. 12
LENGTH over all	58 inch
WIDTH over all	32 inch
HANDLE	1 inch gas pipe
WHEELS	42 inch diam. 2 in. tread
AXLE	1¼ inch cold rolled
WEIGHT	225 pounds
CAPACITY	6 cubic feet
PRICE	$18.00

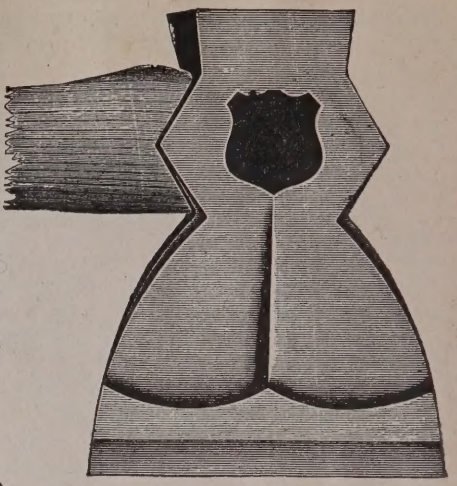
ROCK BOTTOM PRICES ON BEST TOOLS MADE

D Handle Shovels, square point or round point. Best selected cast steel. Size 9¾x12, $5.50 per dozen; $3.00 per half dozen; 50c each.

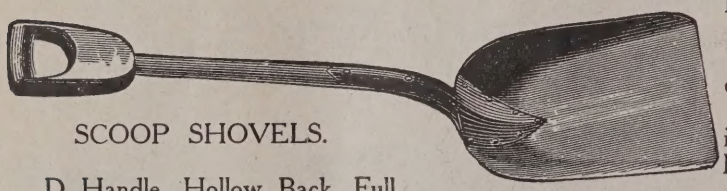


Long Handle, Round Point. No. 2 Black Cast Steel. Size of Blade, 9¾x11¾. Price, 60 cents.



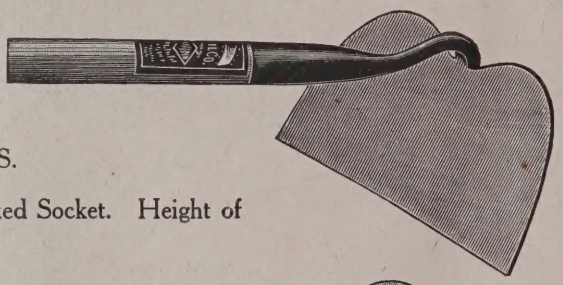


Chip-Away, No. 3 Bronzed. Soft Steel Body, with Full Weight Crucible Cast Steel Bit. Price, 75 cents.



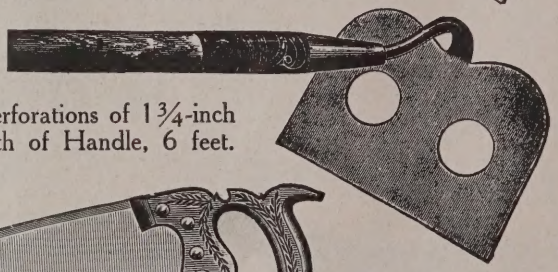
SCOOP SHOVELS.

D Handle, Hollow Back, Full Polished, No. 4 Solid Cast Steel. Width of Blade, 12½ inches. Height of Blade, 15½ inches. Price, 80 cents.



MORTAR HOES.

10-inch Polished Blade, Gold Bronzed Socket. Height of Handle, 6 feet. Price, 55 cents.

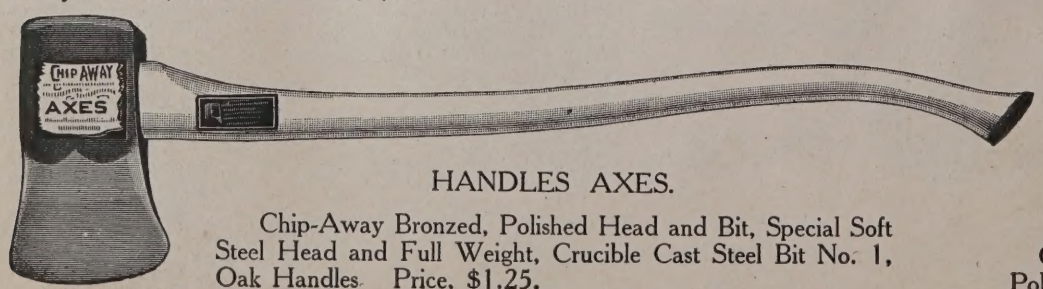


MORTAR HOES.

10-inch Polished Blade, with two perforations of 1¾-inch diameter, Gold Bronzed Socket. Length of Handle, 6 feet. Price, 65 cents.

HAND SAWS.

No. 90 Oak Leaf Spring Steel, Full Width, Etched Blade, Cherry Handle, 26-inch. Price, $1.50.



HANDLES AXES.

Chip-Away Bronzed, Polished Head and Bit, Special Soft Steel Head and Full Weight, Crucible Cast Steel Bit No. 1, Oak Handles. Price, $1.25.

PLUMBS AND HAND LEVELS.

No. 103. 18 to 24-inch Level, only, each, 60c.

No. 3H. Plumb and Level, 24 to 30-inch, Patent Adjustable Ash Top Plates, Brass-Tipped Ends. Price, $1.00.

Rubber Hose.

Dolphin Special High Grade. Tested for pressure of 600 lbs. to a square inch. ¾-inch, 5-ply.
Price, 15c per foot.

Hose Nozzles.

Magic; Throws Spray or a Solid Stream.
Price, 40 cents.

5 PER CENT. OFF
on all tools for
CASH with order.

NAIL HAMMERS.

Oak Leaf, Plain Face, Adz Eye, Polished and Etched. Price, 60 cents.

Use This Blank When Ordering Special or Odd Molds

MIRACLE PRESSED STONE CO.,
MINNEAPOLIS, MINN.:

Please find enclosed (check), (draft), (money order) for $_____

_____ Dollars.

(PART / FULL) payment on the following equipment.

	DESCRIPTION OF ARTICLES	DOLLARS
	Total, $	

Ship to _____

_____
Name

_____
Town

Via _____ _____
State

Signed _____

5 per cent. discount for cash with the order in full payment.
20 per cent. must accompany order to insure prompt shipment, unless rated in Dun or Bradstreet.

WE HANDLE A COMPLETE LINE.

Miracle Guarantee Bond.

To Whom it May Concern: We, the Miracle Pressed Stone Company, incorporated under the laws of South Dakota, doing business lawfully in the City of Minneapolis, and each member thereof, hereby agree, as a company and as individuals, that if in any case Miracle Machines, Molds or other manufactures are found not to be as represented by us, or will not do the work claimed for them, they can be returned at any time within ninety (90) days of the date of purchase, and if in good condition, less reasonable wear, we will immediately refund the price paid for same. Prosperity for us depends on the success of Miracle customers and the prosperity of the concrete industry, hence our established policy of doing everything in our power to help them succeed.

We further guarantee equally careful and prompt attention to all customers, whether their orders be large or small.

SIGNED: Miracle Pressed Stone Co.,

By the President, O. W. Miracle

ATTEST:

By the Sec'y and Treas., Rommach

Minneapolis, July 1st.

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THE VITAL QUESTIONS

THE ALL-IMPORTANT POINTS TO CONSIDER IN PURCHASING A CONCRETE BLOCK MACHINE.

1st. THE BLOCK IT PRODUCES: Above all you want the block which sells the BEST because it IS the best. To be distinctly the best it must have principles which DEFEAT ALL competition. The ONLY block which fully answers these requirements is the Miracle Double Staggered Air Space Block. This book tells you WHY. We alone own the patents, but we will give you, free, a license to manufacture it.

LICENSE CONTRACTS.

With your machine we will give you our regular Form "C" contract which gives you a license under U. S. Patents No. 730,780 to manufacture this block within a certain specified territory without restricting the sale of your blocks in any territory. We give you this because you could not lawfully manufacture the Miracle Block without it.

If you wish to control exclusively the manufacture of the Miracle Block in your territory we will sign a contract with you forever barring us from placing another machine in your territory for an additional consideration dependant upon the nature and size of territory you wish to control. This, of course, is simply dealing in territory outside of the license contract and purchase price of the machine. It is selling a monopoly which we are not anxious to do.

2nd. THE COMPLETENESS OF YOUR EQUIPMENT: Second only to securing a machine to manufacture blocks based upon the soundest principles of reason; a block which sells strictly upon its merits, is the securing of a COMPLETE equipment. In THAT particular you are either going to SAVE money for the future or be at a large and continual expense for additional parts, etc. In THAT particular you are either going to give your customer anything he wants, or secure only the business which suits your machine. The Miracle Exhibit A Outfit is two machines in one, and each machine is a complete outfit. It is quickly interchangeable for ALL KINDS of concrete block construction from the water table to the gable block. No machine is so complete or has so wide a range of capacity of designs as the Miracle Exhibit A Outfit.

3rd. WORKMANSHIP IMPORTANT: Your machine must represent the best of workmanship if it is to produce the best block. If it is going to produce blocks perfectly true and clean cut, if it is going to produce such blocks, ten, twenty or fifty years from now, it must be perfectly made and carefully reinforced to last a life-time. You are concerned in the future and not merely living for today. One Exhibit A Outfit will last forever and always remain perfectly true because it is made RIGHT. It is not made under contract by disinterested machine shops. It is made by us in our own factory under the supervision of our own machinists. That's why we can guarantee it.

4th. FROM WHOM YOU BUY: In the cement building block business it makes a great deal of difference from whom you buy. As your business enlarges and shows a profit you will need additional equipment to keep pace with the demands of the industry and of the public. We will be in business THEN. Our business is well established and you can purchase additional equipment for the Miracle Exhibit A Outfit of any character you choose as long as you are in business without buying additional or special machines at large prices. We do not drop our customers as soon as we get their money. We stay right with you and help you to enlarge your success.

5th. OUR RESPONSIBILITY AND GUARANTEE: The claim or guarantee of the firm you buy from is WORTHLESS unless it is BACKED by a financial and commercial RESPONSIBILITY. Our guarantee to refund your money, if after ninety days trial you do NOT find it as represented, is backed by our $250,000.00 capital stock. But our BUSINESS is worth more to us than our entire capital stock and the very LIFE of our business depends upon the GOODS we deliver.

6th. PRICE: This is of the least importance to consider when you buy a machine to start a BUSINESS. Repairs, additional parts, a larger selling expense and the loss of accumulative orders because of no highly pleased customers means many times more dollars lost than might be saved in the original purchase of a cheaper outfit. The most successful enterprises are built along the lines of LEAST resistance. When you consider these points carefully the Miracle Exhibit A Outfit is not only the BEST but the CHEAPEST cement block machine made.

Miracle Pressed Stone Co.

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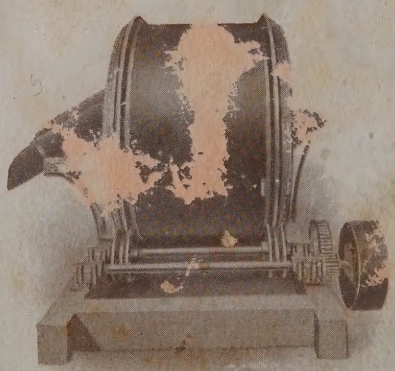
MIRACLE MORE MONEY MOLDS